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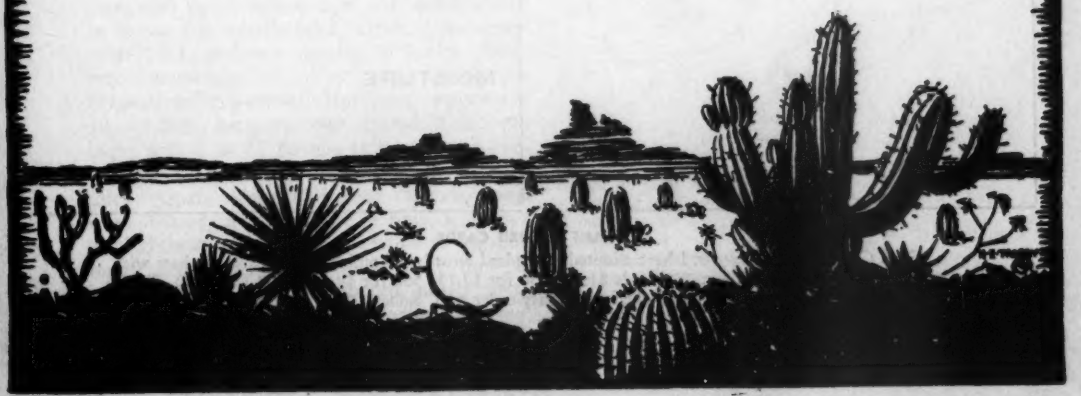
CACTUS AND SUCCULENT JOURNAL

VOL. XXXI JULY-AUGUST, 1959 No. 4

FIG. 31. *Echeveria parrasensis*. A new species, see pg. 99. Plant grown and photographed by Dr. Reid Moran



CACTUS AND SUCCULENT JOURNAL

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Serial No. Generic No. Species No.

Plant Name Author

Tribe Sub-tribe

Habitat

Acquired From Date

Literature

Illustration

REQUIREMENTS

SUN

SOIL

TEMP.

MOISTURE

PLANT RECORD CARDS

From *Cacti for the Amateur*, I have adopted a standard record card which I would like to share with other members of the Society: 100 cards $1.25; 250 for $2.75; 500 for $4.50; 1000 for $8.50. Please add 25¢ per 100 for postage. Send check or money-order to J. Robert Walton, Box 741, Shreveport, Louisiana.

FURTHER NOTES ON ECHEVERIA

By ERIC WALTHER

Research Associate, Department of Botany, California Academy of Sciences

PART VII

14. **Echeveria parrasensis** sp. nov.

"Pertinens Ser. *Urceolatae;* glaberrima; caudicibus brevibus, paulum surculosis; foliis numerosis, conferte-rosulatis, oblongo-oblanceolatis, cuspidato-acuminatis, ad 6 cm. longis et 25 mm. latis; inflorescentiis bifidis, ad 25 cm. altis; bracteis numerosis, lanceolatis, acuminatis, adpressis, 15 mm. longis; ramis secundo-racemosis, 4 - 13 - floris; pedicellis 6 - 12 mm. longis, subturbinatis; sepalis ovato-deltoideis, inaequalibus, ad 5 mm. longis, valde connatis ad basin, adpressis vel leviter patentibus; corollis urceolatis, gibbosis ad basin, ad 11 mm. longis, carneis."

Type: Mexico. Coahuila, near Parras, *Purpus, C.A.,* 04/R:965, (US:431439).

Paratypes: Mexico. Coahuila: Saltillo, *Palmer 02/R-509* (MEXU); Patagalana, on limestone rocks, SE. of Parras, Purpus 05/1332 (US.UC.FM.GH.MO.); Canon of the big waterfall, Chayo Grande, 24 miles SE. of Saltillo, *Palmer 04/42* (US.GH.CAS). Cultivated: Puerto Flores, Coahuila, 22 miles from Saltillo, on new route 75, *R. Moran* 57/6294 (Cornell, UCBG.SD.CAS).

Synonym: E. cuspidata J. A. Purpus, (*not* Rose), Kakteenkunde 1907:184.

Illustration: Kakteenkunde, l.c.

Occurrence: Mexico, Coahuila, see above.

Description: (based largely on R. Moran 57/6294 (UCBG) Stem short, long remaining simple, in age to 8 cm. tall and 2 cm. thick, densely covered with the persistent dry leaves among which grow many slender roots, offsets few or none; leaves numerous, 40 to 100 or more, crowded, obovate-cuneate to oblong-oblanceolate, 5 to 6 cm. long, 20 to 30 mm. broad, at base narrowed to 12 mm., nearly flat above, beneath rounded and obscurely keeled near apex, the latter strongly acuminate-cuspidate, with tip of mucro dark red; inflorescence to 25 cm. tall, usually bifid, in cultivation sometimes 3-fid; peduncle slender, to 3 mm. thick; bracts numerous, to 30 or more, closely appressed, subtriquetrous, lanceolate, acuminate, 10 - 15 mm. long; racemes secund, 8 - 15 cm. long, with 6 to 15 flowers each; pedicels slender, 6 to 12 mm. long, slightly turbinate below calyx; sepals unequal, longest 5 mm. long, ovate-deltoid, acute, connate at base, appressed to slightly spreading above; corolla to 11 mm. long, urceolate, gibbose below, to 7 mm. in basal diameter, 5 mm. at mouth, nearly circular in cross-section, at most oscurely angled; petals not keeled, with quite shallow basal hollow and small, subapical mucro; carpels 7 mm. long; nectaries oblique, narrowly-elliptic, to 1.75 mm. broad. Fls. III-

Color: Leaves light-bice-green, but pulverulent and so light-celandine-green; peduncle light-pinkish-cinnamon; bracts biscay-green, as are the sepals; corolla scarlet to strawberry-pink; carpels whitish below, with styles deep-turtle-green; nectaries chartreuse-yellow.

Remarks: Our new species has long remained unrecognized because of its superficial similarity to *E. cuspidata,* from the same part of Mexico. The latter differs in relatively thinner, broader, blunter leaves, an inflorescence that is always a simple, secund raceme; it has larger sepals and a larger corolla. Our concept of *E. cuspidata* is based on living plants we collected near El Tunal, which agreed perfectly with the very clear watercolor of the type-plant prepared by the late Frederick Walpole. *E. turgida* Rose from Viesca, Coahuila, differs in its thinner bluntly truncate, leaves, its simple raceme, longer, spreading sepals and a pentagonal cor-

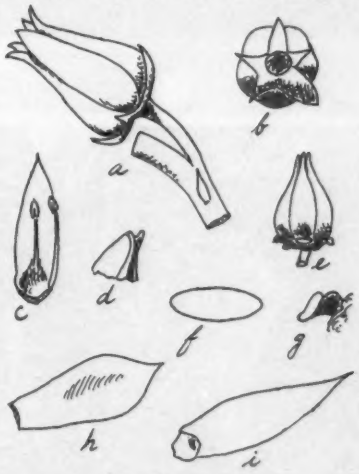

FIG. 32
Echeveria parrasensis
a. side-view of corolla x 2
b. base of calyx x 2
c. inside of petal x 2
d. petal-tip x 8
e. carpels x 2
f. nectary, front-view x 8
g. nectary, side-view x 8
h. leaf x 0.4
i. bract x 2

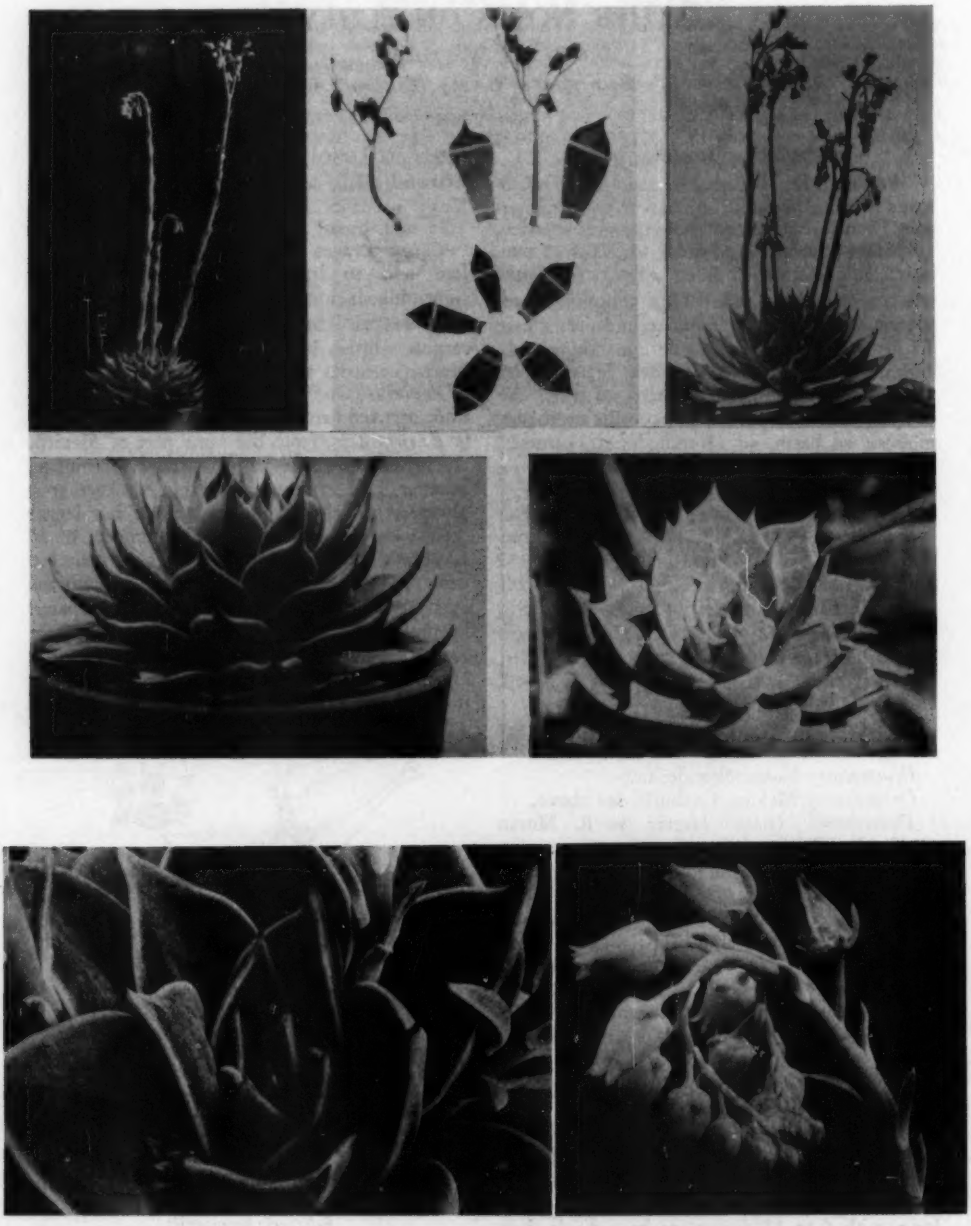

FIG. 33
Echeveria parrasensis. Top left: at University of California Botanic Garden. Top center: type. Top right: from Kakteenkunde, l.c. Center left: U.C.B.G. Center right: Cornell University. Bottom left: leaves of plant at U.C.B.G.: (R. Moran 57/6294). Bottom right: flowers of same plant. (R. Moran 57/6294).

olla, as clearly shown by Walpole's watercolor of the type-plant. Both *E. cuspidata* and *turgida* belong into the Series *Secundae*, whereas *E. parrasensis* must go into the Series *Urceolatae*. Here it would come near the imperfectly known *E. corderoyi* (Baker), which was described as having "sepals free to base"; his illustration depicts a 3-fid raceme, etc.

C. A. Purpus sent living plants to Dr. Rose, to A. Berger at La Mortola, of which last a sketch by his hand is in the U. S. National Herbarium, and also to his brother, then Director of the Botanic Garden at Darmstadt. Of the latter a picture and description, as *E. cuspidata*, appeared in "Kakteenkunde", l.c.

When in Parras in 1937 we failed to locate any trace of this, and only the recent rediscovery by Dr. Reid Moran enables us to settle the matter finally.

52. **Echeveria longiflora** sp. nov.

"Pertinens Ser. *Gibbiflorae;* caulibus simplicibus, crassis; foliis magnis, obovato-orbiculatis, oblique-obtusis, apiculatis, late petiolatis, 15 cm. longis, 8 cm. latis, viridi-glaucescentibus, purpurascentibus; inflorescentiis paniculatis, ad 75 cm. altis; pedicellis brevibus; corollis longissimis, ad 22 mm. longis, roseis violescenti-tinctis."

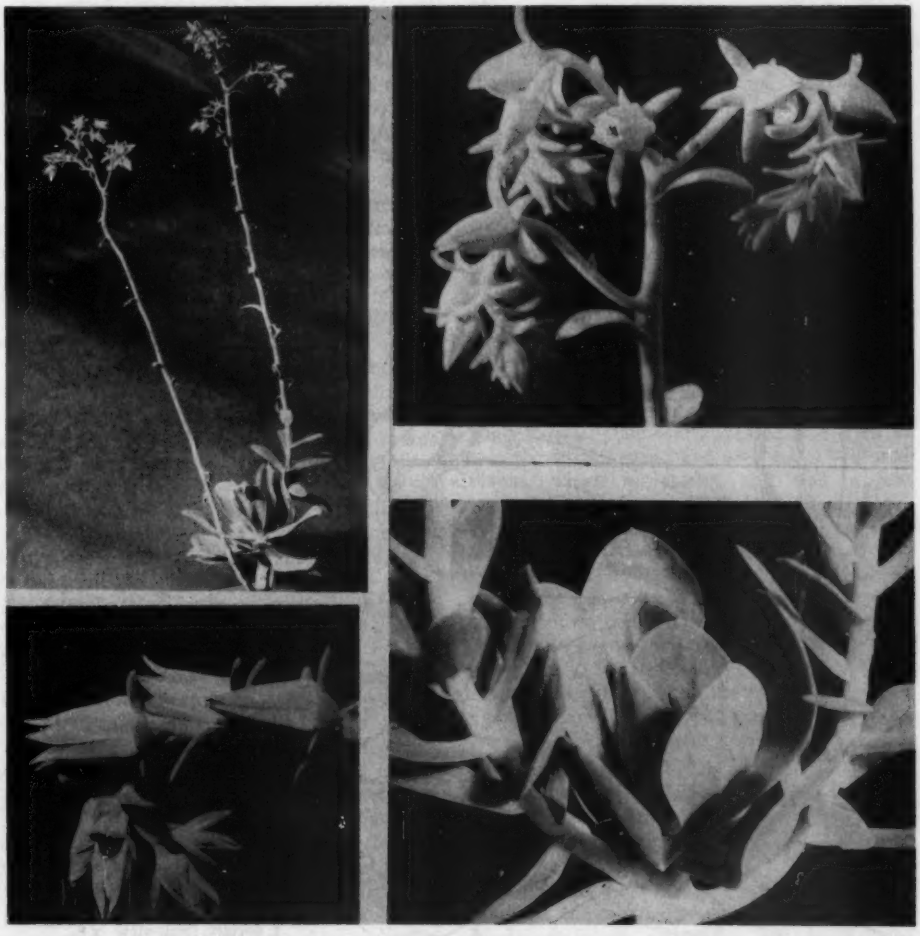

FIG. 34

Echeveria longiflora. Top left; flowering plant. Top right; flowering branch. Bottom left; flowers. Bottom right; foliage rosette. Photos by E. W.

Type: CAS:354990, living plant grown at Strybing Arboretum, Golden Gate Park, S.F., originally received of Sr. C. Halbinger, Mexico City.

Occurrence: Mexico. Guerrero, without definite locality.

Description: Plant glabrous, with evident, stout, normally simple stem; leaves few, large, to over 15 cm. long and over 8 cm. broad, obovate-orbicular, at apex obliquely obtuse, apiculate to acutish, at base narrowed into broad, channelled, keeled and narrowly winged petiole; inflorescences one or two, to 75 cm. tall or more, paniculate, with nearly always three elongated, horizontally spreading branches; peduncle stout, erect; lower bracts oblong, to 6 cm. long, mucronate; pedicels short, or to 15 mm. long; sepals very unequal, shortly deltoid to linear-lanceolate, acute, longest to 12 mm. long, widely spreading to slightly recurved; corolla long and relatively narrow, about 2:1, to 22 mm. long, 13 mm. broad near base, 10 mm. in diameter at mouth; petals bluntly keeled, obtuse; carpels to 17 mm. long; styles long and slender; nectaries oblique, transverse-rhomboid, 3 mm. wide. Fls. I-

Color: Leaves vetiver-green, more or less glaucous, tinged light-vinaceous-drab; bracts as the leaves but mineral-gray with bloom, tinged light-cinnamon-drab; pedicels bluish-glaucous; sepals grayish-lavender with bloom intact, to light-vinaceous-lilac; corolla pale-vinaceous-lilac at base, to old-rose above with bloom, *never* yellow-orange, inside and at edges above pale-flesh-color; carpels seafoam-yellow; styles indian-lake; nectaries straw-yellow.

Remarks: The present novelty further illustrates the diversity existing within the formerly broad concept of *"E. gibbiflora"*. In its Series the new species is notable for the exceptionally long and rather narrow corolla, which lacks any trace of yellow or orange coloration. A corolla, similar as to shape and color, is found in *E. scheerii* Lindley from Oaxaca, which has only recently been re-discovered by Mr. Thomas MacDougall. Here too the inflorescence is usually 3-branched, but the plant is much smaller, with a shorter stem; its leaves are smaller, more crowded, deeply concave above with margins strongly undulate, and the inflorescence is much smaller and lower.

The stumps of old plants, decapitated for rejuvenation, produce numerous sprouts from dormant, axillary buds, which become readily detached and root freely.

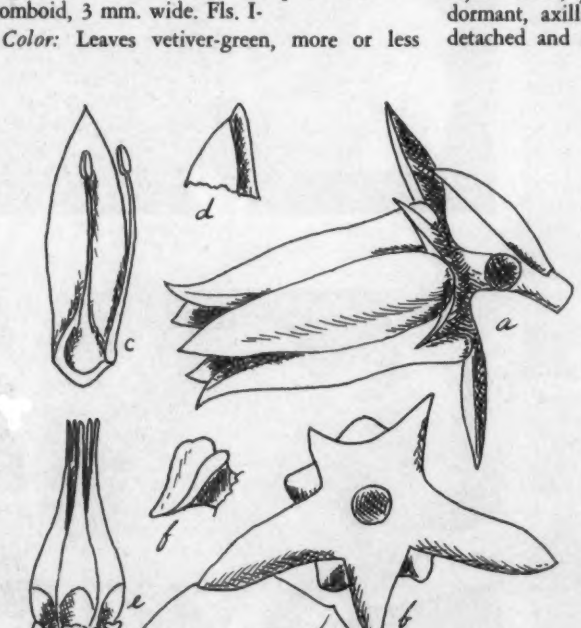

FIG. 35
Echeveria longiflora
a. side-view of corolla x 2
b. base of calyx x 2
c. inside of petal x 2
d. petal-tip x 8
e. carpels x 2
f. nectary, front-view x 8
g. nectary, side-view x 8
h. leaf x 0.4
i. upper bract x 2

Back to Baja California

LESLIE ANNE MILLS

A year ago we collected cacti in Baja California. ("Rugged Road to Cacti"), for the first time. As we planted and rooted our cacti we spoke of returning to that Peninsula. We were very gratified with the growth and blooms from these plants and the fact we had no losses.

Rod and I talked to Kitty and Joe Sabo and they were just as enthusiastic. So once again we made plans for our Baja adventure. Our jeep, "Senorita de Fierro", had considerable repairs to be done. Springs replaced and tires recapped and a complete overhaul. The cactus rack was put back on top and bottle boxes were once more collected for packing the cacti in. Kitty and Joe were carrying their 12 foot outboard this trip, instead of a rack.

To our great disappointment we could only have two weeks vacation this year which definitely effects a trip to Baja where time is the most important factor. We decided to drive down the Gulf side to Bahia de los Angeles and spend a few days there collecting cacti on the islands. Then return by way of Millers Landing and north on the main Camino Numero Uno. This route would take us about a third of the way down the Peninsula.

On Friday, February 6, we packed "Senorita". The empty boxes went in the rack covered by a tarpaulin. We made up our bed in the jeep and filled the 20 gallon auxiliary gas tank and two 5 gallon water cans. Our canned food and clothes were wedged under the bed and on top of the spare tire. Extra parts and tools and dog food for Andrew, our Fox Terrier, were somehow fitted in, and the tow cable was fastened to the front bumper. At 6 A.M. Saturday morning Kitty and Joe drove up in the Ford pickup with camper and the boat on top and in a slight grey drizzle we started for the border.

Tijuana was sunny and dry and, after the rain we had driven through, it was truly a smiling Mexican welcome. We had lunch on the way to Mexicali surrounded by F. viridescens and M. dioicas. On the mountain road leading down to Mexicali we collected F. rostii, such beautiful plants. Yellow and red spines in youth and all yellow in age. Drove through the hubbub that is Mexicali and down the road to San Felipe. We camped in the desert that night, enjoying our campfire and listening to the yipping of coyotes.

In the morning we collected O. ramosissima and then drove the straight, paved road to San Felipe. There we bought gas and left the pavement for a graded, but washboard, dirt road. Collected Lophocereus schottii cuttings, the older ones with hair and the young ones without. Continued on through bleak, bare country. Red volcanic rocks and mountains bare of all growth, the desert only supporting Ocotillo, a few red barked trees and white "Elephant trees". The gulf was blue and sparkling, near the shore the porpoises were playing, while farther out the fishing boats bobbed on the waves. The wind had started howling and a storm threatened so we looked for a high and dry campsite. We made camp hurriedly and put up the Sabo's tarpaulin. When the rain came we were snug inside, eating our dinner. Our jeep rocked all night with the wind but we awoke to a beautiful morning. Five coyotes paraded past our camp, much to Andrew's indignation.

We drove into Puerto Cito, a little fishing village on a lovely bay. Sea gulls were screaming and arguing over dead fish. Bought gas and continued on, the road becoming less traveled at this point. There were five steep hills to climb and descend, each one giving us wonderful views of the gulf. There were no cacti, only barren mountains making us think of the moon. Drove off the road for lunch, and found the going sandier than had appeared. Joe tried to turn the truck around and was stuck. We used planks, which he carries, and with a few manual shoves, he was out. At San Luis Gonzaga bay we managed to buy more gas, it is not always available there but some had just been brought in in cans. We inquired about the roads and were told there were two, one straight down the gulf to Bahia de los Angeles and one to Laguna Seca Chapala. Our map only showed the Chapala road but we decided to investigate the other one in the morning. Camped again in barren desert, Kitty and I quite glum over the lack of cacti, only a few chollas around us.

Coyotes visited us again the next morning and were surprisingly unafraid. The day started off badly with one of Joe's tires flat, which meant he wouldn't have a spare from then on. We came to the Chapala road turning inland but ours continued on as far as we could see, graded and with tire tracks. We drove seven miles on it, getting sandier and sandier and finally nothing, no road, just a wall of moun-

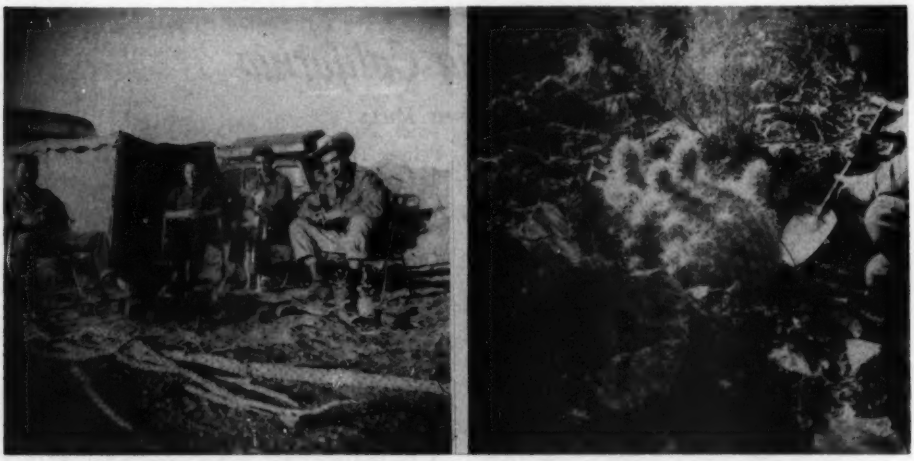

FIG. 36
Left; Campsite with Joe, Kitty, Anne with Andrew and Rod. Right; Cochemiea poselgeri.

tains in front of us. We turned around but Joe was stuck. In four wheel drive we hooked the cable on to his truck and pulled. It was very difficult to turn him around as we would dig in over our hubs and then have to unhook, drive out, and start again. Sixty minutes later we were heading back the seven miles to the Chapala road. Once there we erected a large barricade of rocks and ocotillo sticks to warn other unknowing drivers. (Later, at Bahia de Los Angeles, we asked again about a road on the gulf side and they assured us there was none, only the Chapala road.)

Kitty and I really began enjoying ourselves on this trail. We saw Idria columnaris and never cease to wonder at these strange trees, not unlike a sprouting telephone pole. Others bend over like long elephant trunks. There were many Pachycereus pringlei and then F. tortulospinus with varying lengths of spines and color intensity. The road wound through huge granite boulders, over rocks and along river bottoms of white sand. It has often been called the "Jeep trail" but Joe's Ford camper had no difficulty negotiating it. We stopped to collect a Mammillaria similar to M. dioica, it is whiter and with a more pointed apex, we haven't identified it yet. Andrew had his first cactus initiation at this place. He got an O. bigelovii in his paw, grabbed it with his teeth and ended up with it in his mouth! It took the four of us to remove it and all the spines but he suffered no ill effects once they were all out.

We reached Rancho Chapala and there connected with the main road which always seems in worse condition than the secondary ones. There were a lot of muddy puddles from a previous rain which brought back memories of our watery roads the year before. That night we had a wonderful campsite on a mountain with big rocks and Idrias, Pachycereus and Machaerocereus gummosus, complete with crest. And, of course, the ever present M. dioica.

We had a really cold morning and threatening sky to awake to. Broke camp early and drove to the Bahia de los Angeles road, a much better road again and very interesting. Found some Dudleyas under the Idrias and Kitty spotted a huge O. bigelovii plant, almost all of it crested! The weather brightened as we neared the bay and we arrived there at 2:30 on the afternoon of the fourth day. We met Senor Diaz, the owner of the resort there, and bought some lobsters from him for dinner. Drove down the bay about a mile and camped at a lovely little cove with a big cliff behind us. We swam, but the water was quite cold and it was only in the interests of cleanliness that we went in at all. Joe launched the boat and went fishing but had no luck. We ate our lobsters and made plans for our expedition to Isla Smith in the morning.

The day dawned beautifully calm and clear and we got an early start. Loaded the little boat with extra gas, water and our cactus digging tools and waved goodbye to Rod and Andrew, who stayed in camp. Our boat purred over the ripples and soon shortened the distance to the islands. A shark lazily wallowed by us and cormorants and pelicans flew over the boat and

dived for fish. We saw a nice sandy cove to land on and were soon ashore and preparing for the hard climb up the steep cliffs. Joe left Kitty and me there and went off in the boat to fish. All over the cliffs were F. gatesii and we decided to collect them last. We started climbing up, testing each rock for solidity, and soon saw an Echinocereus species giving much the same impression as O. bigelovii until we saw it close. A very colorful, golden plant. Among the rocks grew a Mam., again similar to M. dioica, we took four plants to identify later. We were almost to the top when we heard a terrible roaring noise. I looked down at our cove and saw the water swell, but nothing else. We sat down and looked at the sea and soon saw a huge whale rise out of it, release his air and dive again, showing his shiny black back and flukes. Then another and another, it was eerie to see them so close and to hear the noise from their blow holes. We wondered how Joe was faring in his 12 foot boat! As we arrived at the top we started looking for M. insularis, I almost stepped on one otherwise we would have missed them all together. They are very white but so deep seated only the tops are visible. Some were in open ground while others were wedged between rocks. A search of one hour only produced four specimens. Joe putted into the cove and we yelled down, "Did you see the whales?" He called back, "You bet your life I did!" He had been very close to them and didn't know what to do but they passed him by without incident.

Our climb down was far worse than going up. We had a bag of Mams., a clump of Echinocereus and cuttings, and two F. gatesii to carry down, we spent quite a lot of time on the seats of our pants. After loading the cactus in the bottom of the boat we motored to another island. On the way we passed small islands covered with pelicans and cormorants and saw seals playing around the rocks. The next island we landed on had very little vegetation and only a few G. gatesii but some nice specimens of Echinocereus. High above our heads I saw two black and white sea eagles and their nest. I decided to climb up and take a picture of the nest. It was a more difficult climb than the previous one as it was a combination of slippery sand and unanchored rocks, plus the fact I had the Leica and light meter around my neck. As I neared the top the mother eagle flew off her nest and joined her mate in wheeling and screaming around me. I armed myself with a rock but they never attacked and contented themselves chasing an innocent crow. As I took a picture of the large nest complete with three big eggs, one came near and showed me his talons but when I shouted he flew away.

We set off for our campsite with the waves getting bigger and hugged the shore for protection, till we ran aground! A little rowing got us off the sand bar and soon we landed on our beach. Rod and Andrew greeted us, the members of a successful expedition!

We spent three nights and two days at Bahia de los Angeles and on different walks found more Mams. we couldn't identify and, to our amazement, we saw clumps of O. invicta.

FIG. 37
Left; A Pachycereus road block. Right; Kitty and Idria columnaris.

We had collected them on our last trip but much farther south and had no idea it grew here. We studied our cacti books but couldn't name several Mams., we feel sure they are not dioicas although that plant varies so much. Joe got his tire fixed and we bought ice, filled our water cans and were ready to move on. Senor Diaz gave us a huge yellowtail as a parting gift.

After leaving the bay, we took another road to Mission San Borjas, and had great success cactus hunting. We collected a lovely blue yucca plant, Dudleyas and a Ferocactus. Rounding a bend I saw, up on a hill, a huge mass of Cochemeia setispina. It was a beautiful sight, pure white against a background of green moss. Another turn brought us to the mission with a man on a burro riding by it, and adding to the charm of the scene. The road was slow but good, comparatively speaking, and wound through M. gummosus, many with crests, and F. gracilis. We collected some more Mams. that have us confused!

We joined the main road again at Rancho Rosalita where we tried to buy gas but they didn't have any. That night we camped in the same spot we camped the year before and it was like coming home again. Idria columnaris rose above us and some bent low to the ground like a garden bower. We grilled the yellowtail and had so much that Andrew could have his own fish steak.

I got up early the next morning and Andrew joined me in a lovely walk, watching the sun rise. I collected M. brandegeei and M. brandegeei v. lewisiana, also M. shurliana and Echinocereus maritimus. After breakfast we drove on Camino Numero Uno to the Millers Landing cut off where we turned toward the Pacific Ocean. We drove down to Millers Landing which is now only a pile of marble. The desert was very barren and open but we looked for M. dawsonii as it is reported from that area. Never found it but did find M. blossfeldiana at Bahia de Santa Rosalia. It grows amid thousands of small stones and, although numerous, is quite difficult to see.

Our radio reported rain and the sky looked very stormy. Joe had had another flat tire so we decided we had better drive to Punta Prieta. The road south of that town is in a huge wash, a bad place to drive through during or after a rainstorm. We had to navigate it partially at night and it was very difficult following the newest, and therefore best, tracks. Punta Prieta was dark, the kerosene lamps giving very little light through the small windows. We could only get five gallons of gas between us as none of the trucks had come through, the road further north being so bad. We camped just out of town and the next morning Joe got his tire fixed. We tried to buy hydraulic fluid, we had a leak in our brake line, but they didn't have any. We changed our plans and decided to go home the same way from Rancho Chapala. Kitty and I were very disappointed but the alternative was many days of hard driving and the possibility of being stuck in the mud a long time.

We managed to get fifteen gallons of gas between us at Rancho Chapala and then took the Jeep trail back to the Gulf. It was just as enenjoyable as before and we had a lovely campsite amid boulders, on beautiful white sand, the moon dramatically lighting it all. Joe, unfortunately, bent his tie rod on one of the rocky stretches and his running board got another dent added to the ones from last year.

We found the gulf side to San Felipe just as monotonous from a cactus collectors point of view, but we did have lovely camps on the beaches. We dug for clams without success and Rod started to swim, nearly stepped on a five foot shark, and changed his mind! Andrew chased a pack of coyotes through our camp and we thought we had really lost him. He came back finally, tired but triumphant.

Kitty and I thought we had our collecting but were pleasantly surprised to find F. orcuttii in our last camp. We arrived in Tijuana and showered and changed for a night out. Had a delicious dinner and went to the Jai Alai games, then took Andrew to his first and, probably, last night club!

Nine-thirty the next day saw us through the Agricultural inspection. Mr. Willis, officer in charge, gave us the same courteous treatment and the plants the same thorough inspcetion as before. They were all passed.

So once again we ended our vacation and cactus collecting spree in Baja California. In a month we can begin planting and hope we have the same good fortune with our plants as last year. Adios!

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Three Interesting Stapeliads from Somaliland

PETER R. O. BALLY

British Somaliland — or more correctly: Somaliland Protectorate — is one of the richest countries for Succulents in Eastern Afica; it is also one of the least known and least accessible. Situated in the Horn of Africa, with its long coastline facing the Gulf of Aden, it is an arid, inhospitable country with practically no permanent water-courses, low rainfall and very little arable land. It is inhabited by the nomadic Somalis and their stock; even they could not survive without the camel, the hardiest and most frugal of all domestic beasts, around which their life revolves.

In many parts of Somaliland Succulents such as *Aloes* and *Euphorbias* are so common that they dominate the scenery. The *Stapeliads* too are well represented; some species are widely spread throughout the country and even beyond its borders, such as *Caralluma retrospiciens, C. speciosa, C. pennicillata, C. socotrana* and the ubiquitious *Echidnopsis dammanniana.* Others, on the other hand are strictly endemic, some even extremely rare in their own habitat.

The three plants described and illustrated in this article are among the rarest of the rare Somaliland Stapeliads. On the face of it, their scarcity is surprising, for by virtue of their compact and near-spherical shape, they would appear to be particularly well adapted to survive the rigourous climatic conditions of the country: for the sphere combines a minimum surface with a maximum of moisture-storing tissue and can thus be considered the ultimate adaptation in water economy that a succulent can attain.

However, the reason for their present scarcity is due no doubt to a comparatively new factor which has arisen in their environment and against which they are not yet equipped by nature. This new factor is the unprecedented increase of man and his stock in the course of the last few decades.

Unlike other Succulents of similar appearance these plants lack the forbidding spiny protection of the Cacti or the acrid, corrosive latex of the Euphorbias; their succulent flesh is neither distasteful nor poisonous, but, on the contrary, it has a pleasant, sweetish taste.

In a country which is combed relentlessly year in year out by man and beast for anything edible, such tasty morsels—camouflaged though they are by shape and colour to resemble the stones and pebbles among which they grow—have little chance for survival.

Whitesloanea crassa Chiov. was discovered in 1914 in British Somaliland near Odweina by Col. R. E. Drake-Brockman, a medical officer in the early days of British administration, an outstanding naturalist and an assiduous collector. He brought a living plant to Kew Gardens where it remained in cultivation for 5 years before it flowered. It was then described by N. E. Brown and figured by Miss Matilda Smith for the Botanical Magazine, but never published. Its description as *Caralluma crasse* N.E.Br. finally appeared in Gard. Chron. XVIII., 6., 1935.

For many years I endeavoured to find the plant, but it had become extremely rare and—as I was to discover later—I did not really know what to look for, although I was well acquainted with the description and knew the beautiful drawing made by Miss Smith from the cultivated plant. The latter shows a fleshy, quadrangular, tapering stem much higher than its diameter, with crenate-dentate angles, not unlike the stem of *Caralluma retrospiciens.* The description refers to young shoots from which the flowers are produced, calling to one's mind a branching habit.

Therefore, when the Somalis told me of a strange, squat, pebble-like plant to be found in the neighborhood of Sheik, I did not necessarily connect it with *Whitesloanea crassa.* Anxious to obtain what appeared to be a still unknown Succulent, I searched the likely areas very thoroughly, assisted by my friend Roy Tribe of the Somaliland Forestry Department. But though Roy's forest guards knew the plant well and were promised a substantial baksheesh for any plant found, the result was nil.

It was a whole month after my return to Nairobi that Roy sent me the first plant; shortly afterwards more plants followed, together with an excellent photograph of a fruiting specimen in its habitat. The plants were soon established in my hothouse, and in March 1958 the first flower appeared and left no possible doubt on its identity: It was the long lost *Whitesloanea crassa.*

The discrepancy in appearance between the newly discovered specimens and the plant portrayed by Miss Matilda Smith is easily enough explained: The latter was in cultivation in Kew for five years, very probably in moist hothouse conditions, totally different from those of its arid habitat, and these must necessarily have influenced its growth.

The Somali-name for our plant is "aroor

FIG. 38
Whitesloanea crassa Chiov. in the neighbourhood of Sheik.
Photo by Roy Tribe, November 1957

khaleh" which means literally "little hills" and refers to the prominent crenations along the angles. The botanical name of the plant was changed twice in its short history: N.E.Brown originally described it as a *Caralluma* because of its obvious affinities with that genus. Subsequently, when the necessity was felt to subdivide *Caralluma* into more genera, White and Sloane changed its name into *Drakebrockmania*, after its discoverer, separating it from *Caralluma* on account of its distinctive, pedicellate inner corone. (A. White & Sloane, Stapel.2, 1.401,1937).

Emilio Chiovenda pointed out that Drake-Brockman's name had previously been used for a genus in the *Gramineae*. According to the rules of botanical nomenclature a new name had to be found for our plant, and Chiovenda chose to commemorate in it the joint names of Alain White and Boyd L. Sloane, who have done so much to further the study and the cultivation of the *Stapelieae*. The new name, *Whitesloanea crassa* (N.E.Br.) Chiov., was published in: Malpighia, XXXLV, 541, 1937. In the same paper, Chiovenda described as "Whitesloanea migurtina" a plant which obviously belongs to the genus *Lithocaulon*. The description is based on a sterile plant collected in Somalia, Nogal valley, at Gid Gudud, by Puccioni & Stefanini on 20-4-1924. In the absence of flowers no definite statement as to its identity is possible, but the squat, obtusely 4-angled, unbranched stem and its tessellate surface point to a very close affinity with *Lithocaulon cubiforme* Bally, illustrated in this article.

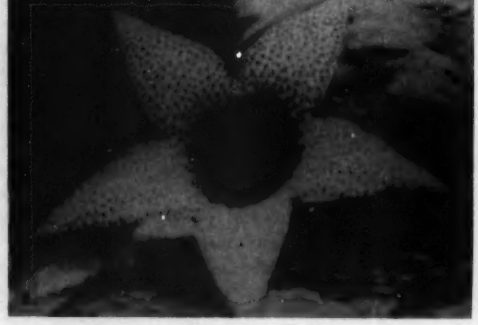


FIG. 39
Whitesloanea crassa Chiov.
Flowering in cultivation in Nairobi
Bally photo

FIG. 40
Lithocaulon sphaericum Bally, flowering in the type locality.

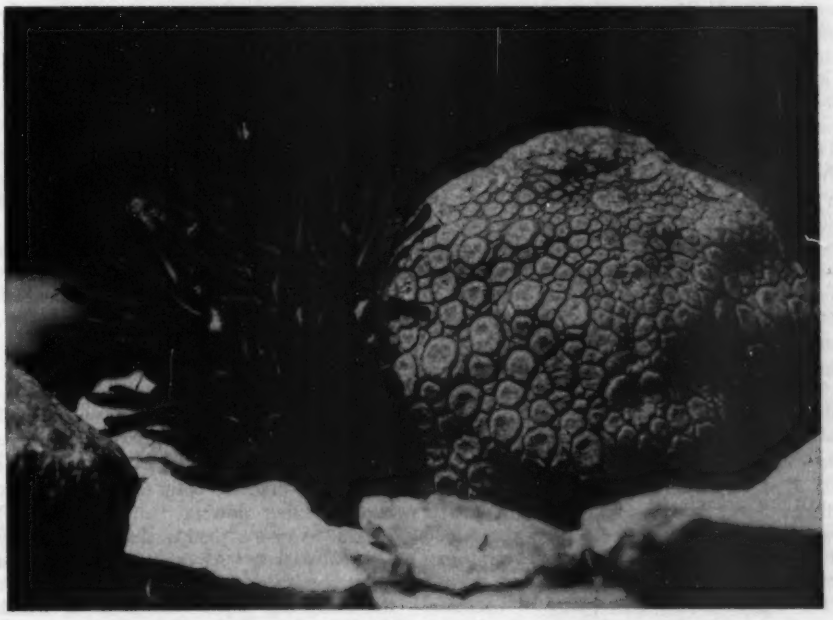


FIG. 41
Lithocaulon cubiforme Bally, from north of Hargeisa
Plant in cultivation at "Les Cedres". Bally photo, July 1958

FIG. 42
Striking camp in Somaliland Protectorate in the eastern Al Madu Range. Bally photo.

Situated in the extreme East of British Somaliland is the Al Madu, sometimes referred to as the "Ahl Mountains", one of the most important mountain ranges in the country. Due to its remoteness and to the almost total absence of permanent water it is also the least populated part of the Protectorate.

The local tribes make a scant living by gathering frankincense, a resin which they obtain from a tree which thrives in almost unbelievably arid conditions, growing on the naked rock of the barren hillsides at low altitudes. In this range the vegetation has least suffered from human interference, at least in recent history, and it is therefore the most promising hunting ground for the Botanist.

In the autumn of 1956 it was arranged by the Department of Natural Resources that I could accompany one of their Forest Officers, Brian Boaler, on an inspection tour through these forlorn mountains, a privilege for which I was most thankful. The higher zones of their northern slopes benefit from somewhat better rainfall conditions than the rest of the region and are covered by fairly extensive juniper forests which, if made accessible and opened up for exploitation, might prove of considerable value to a country otherwise so poor in timber.

At present, no roads exist in these mountains and the only mode of travel is by camel. In Somaliland these beasts are not trained for riding, but they were indispensable for carrying our provisions of food and water, our tents and other equipment.

Walking is, of course, by far the best mode of locomotion for botanical collecting. Brian had laid on 10 camels with their attendants, they met us at the foot of the range, where the last stony track, just manageable for our Land-Rovers, came to an abrupt end.

It was near our first camp in the Southern foothills, while collecting on the rock-strewn slope which rose behind our tents that I found —squeezed tightly between two stones—a small succulent which puzzled me completely at first: Distorted and mis-shapen by the narrow space in which it grew, it was dull green and covered with small tessallations, but not in longitudinal ranks like those of *Echidnopsis* or *Trichocaulon;* they resembled more those of certain species of *Dorstenia,* but the latter have a characteristic latex. Neither flowers, fruits nor leaves were present to give a further clue.

Until darkness set in, I searched in vain for more specimens on the vast, rubbly slope: on the following day I continued my search, assisted by Brian and some of our men, and presently we found a few more plants.

Those which grew unimpeded by the sur-

rounding stones were almost perfect spheres, about the size of a golfball, sometimes somewhat larger; these showed four vertical ranks of larger tessellations like four meridians on a globe, an indication of their inherently 4-merous structure which made their connection with the *Stapelieae* almost a certainty. It was some days, however, before I found a plant with fully developed flowers—small umbels of maroon coloured, 5-lobed stars—produced in several places along the four meridians. Another plant had an almost mature pair of follicles.

The strange little succulent was abviously unknown to science; this in itself was by no means surprising, for Eastern Somaliland abounds in endemic species. What did astonish me was that most of our Somali companions appeared to know the plant well and maintained that is occurred elsewhere, even in the neighbourhood of Hargeisa. They called it "dinah" (tortoise) on account of its shape and tessellated surface. As it is almost impossible to distinguish from the stones and pebbles among which it grows, I chose to name it *Lithocaulon* (stone-stem) with the specific epithet "sphaericum", indicating its shape.

Like *Whitesloanea* with which it has a superficial outward resemblance, *Lithocaulon* is edible and pleasantly sweet to the taste. In the thinly populated Al Madu Range it still has a chance for survival, but elsewhere I found it to be extremely rare: After our return to Hargeisa, the capital of Somaliland, I made every possible effort to obtain specimens from there, but although many Somalis knew it, they were unable to find any plants.

Six months later—I had long since returned to Nairobi—I received a small box containing a solitary plant of "dinah" which had been found some 30 miles north of Harigeisa by Mr. J. L. Daniels, Assistant Geologist in the service of the Somaliland Government. It had the same characteristic tessellate surface but it was distinctly 4-angled, and near the apex the angles were slightly raised and met in the center in the semblance of a cross.

Was it a growth form of the Al Madu species, or specifically distinct?

The study of its flowers would alone give the answer, but my plant made little headway in my hothouse.

When I revisited Somaliland in the autumn 1957, Mr. Daniels very kindly volunteered to take me to the locality where he had found his plant.

We went by Land Rover, first along a much eroded road, then up a sandy riverbed for about 23 miles. From there we continued on foot, through rocky, barren country for several hours. The actual site was a small syenite hill, almost bare of vegetation, at a place called Aderiale; among its sun-scorched rocks we collected—after some search—a total of eighteen plants; although the neighouring hills looked very much alike, the plants were confined to one small area.

A few days later these plants were on their way by air to several botanical gardens in Europe and in U.S.A. for cultivation and further study. It was in the "Jardin Botanique Les Cedres" in St. Jean-Cap-Ferrat that the first *Lithocaulon* from Aderiale bloomed and enabled me to describe it as a new species, clearly distinct from *L. sphaericum,* under the name of *Lithocaulon cubiforme.*

Thus, within a short time two species of a new and very interesting genus of the *Stapelieae* have come to our notice and are, indeed, available for cultivation, for they are now grown successfully in several botanical gardens. Though slow and easily overwatered when grown on their own roots, plants grafted on the hardy tuber of *Ceropegia woodii* soon grow vigorously and bloom readily.

The new Genus and its two known species, *Lithocaulon sphaericum* and *Lithocaulon cubiforme* will be described early in 1959 in "Candollea", No. 17, a publication of the Conservatoire et Jardin Botaniques de Geneve.

Geneva, January 1959
Botanist
Coryndon Museum
NAIROBI Kenya Colony

* * *

NORTHWEST CACTUS AND SUCCULENT SOCIETY

The display of our club at the Parade of Gardens, held April 16-19, at Gresham, Oregon, was the high light of our year so far. Good member cooperation made possible the award of a purple "Award of Merit". No prizes were given, other than the ribbons. We were permitted to hold a plant sale, and the sales totaled $89.50. Our club meets the 2nd Sunday in each month, and timely topics such as soil conditions, pests, grafting, etc., are discussed. Colored slides showing cactus gardens are shown. Pronunciation is studied by means of slides showing phoenetic spelling, picture of plant and details as to locality, etc. Our dues include subscription to our national magazine, so each member is kept informed as to the working of the club, new plants, etc. Our club has joined the Federation of Garden Clubs as well as the affiliation with the National Society.

MILDRED WELLBAUM
Mulino, Oregon
Affiliate Reporter

CORRESPONDENCE WANTED

Mrs. Janeene Sims, 127 Essex St., Masterton, N.Z.

Mrs. Marion Turnock, 135 Derbyshire Lane, Stretford, Lanschester, England.

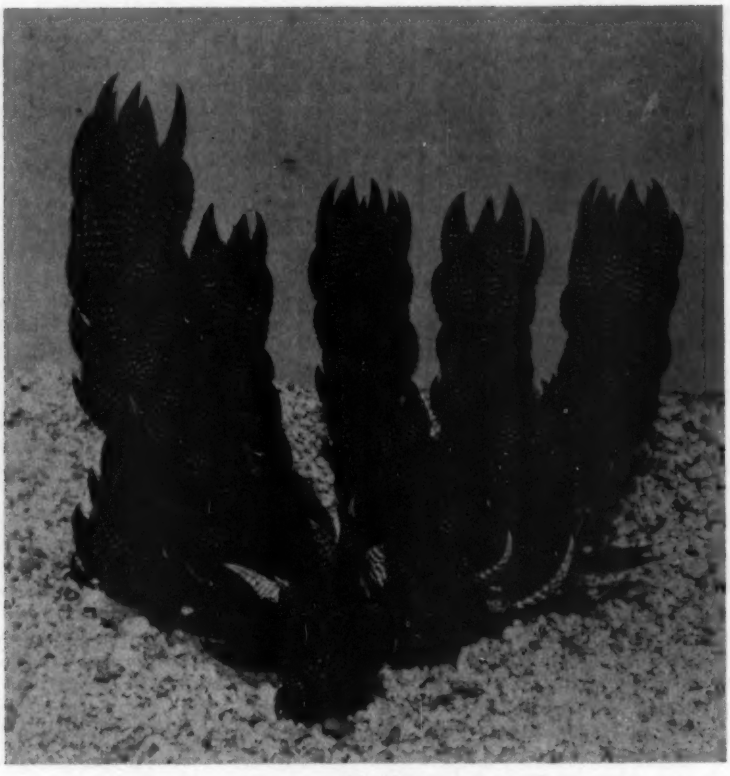


FIG. 43
Haworthia reinwardtii var. *tenuis* G. G. Smith nat. size

Notes on Haworthias

J. R. BROWN

Haworthia reinwardtii var. **tenuis** G. G. Smith in Journ. So. Afr. Bot. XIV (1948) 51, Pl. VIII & fig. 4

Plant with leafy stems to 20 cm. tall, 1.5-2.5 cm. in diam., proliferous from the base and soon forming clusters.

Leaves crowded, erect, incurved, 20-27 mm. long, 10-12 mm. broad towards the base, about 4 mm. thick, lanceolate, acuminate, cuspidate; face concave, green to somewhat reddish-green with a few small, round, solitary, concolorous or slightly whitish tubercles in 5-7 lengthwise more or less converging rows; back rounded and with about 12 transverse and about 14 indistinct lengthwise rows of round to transversely oblong, white tubercles, the transverse rows 1.5-2 mm. apart at the middle of the leaf; keeled in the upper part, light green to reddish-green, not shining.

Locality: South Africa; Cape Province, Alexandria Distr.

The photograph illustrating this narrow stemmed Haworthia shows the leafy stems about 1.5 cm. in diam., and was chosen to accentuate this character, however other plants in a more vigorous growing state show the stems to 2.5 cm. in diameter. Haworthias of the sect. *Coarctatae* have leafy stems which vary in diam. as the leaves are more expanded when growing well or are more contracted when the plants are more or less dormant.

It is a fast growing plant and the slender stems as shown in the illustration soon become procumbent after reaching this length and some 30 months after the photo was taken some of the stems were about 20 cm. long. The author mentions that it assumes "a rope-like appearance in its procumbent habit."

The older part of the leafy stems are reddish-green in color, a more or less purplish-red, the white tubercles on the back of the leaves would appear to become smaller in cultivation and seldom attain a diam. of 0.5 mm., the tubercles often become confluent transversely instead of merely oblong and the transverse rows are seldom over 1 mm. apart.

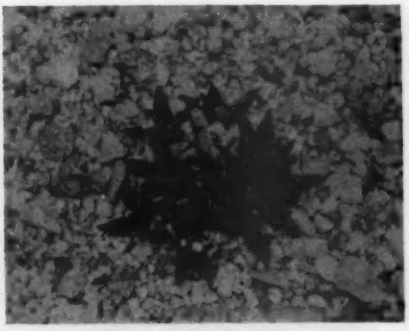


FIG. 44
A cluster of *Haworthia parksiana* Poelln. nat. size

Haworthia parksiana Poelln. in Repert. Sp. Nov. XLI (1937) 205, in Cact. Journ. VI (1937) 19, in Desert Plt. Life X (1938) 48, fig.

Plant stemless, 2-5 cm. in diam., slowly proliferous from the base.

Leaves 1.5-2 cm. long, to 9 mm. broad, lanceolate, acuminate, and terminating in a very short bristle, dark green, erect-spreading, recurved towards the tip; face flat to somewhat convex, sometimes with a more or less prominent median line in the upper part; back smooth, rounded and keeled, the margins sometimes with minute teeth or sometimes tubercularly roughened, the keel sometimes with minute teeth near the tip; end-face recurved, deltoid, 6-10 mm. long, to 9 mm. broad at base, and densely covered with minute concolorous, obtuse, more or less shiny tubercles.

Type locality unknown. Recorded from Great Brak River.

Recollected by G. G. Smith near Great Brak River, George Distr. Cape Province, So. Africa.

This interesting little Haworthia of sect. *Retusae* was named under somewhat mistaken circumstances. Mr. F. R. Long, who at the time was superintendent of parks for the city of Port Elizabeth and very interested in Haworthias, used the prefix "Parks" to his numbers of those Haworthias which were being grown in one of the city parks and when this Haworthia was sent to Dr. von Poellnitz it bore the notation "Parks 636/32" and for some unexplained reason it was named in honor of a non-existent Mrs. Parks.

This Haworthia was well known to Mrs. van der Bijl of Great Brak River about the time Mr. Long received it.

The photographs illustrating this Haworthia show an individual rosette in side and top view, also an older plant with offsets is shown, this older plant has withdrawn very closely to the soil and some of the sand particles had to be brushed aside so that it could be seen clearly. The main rosette is only about 2 cm. in diam., so that there seems to be a great variation in size from an individual rosette to an old plant with offsets, this of course applies to plants grown outdoors in So. California.

The tubercles on the end faces of Haw. parksiana are obtuse and never toothed.

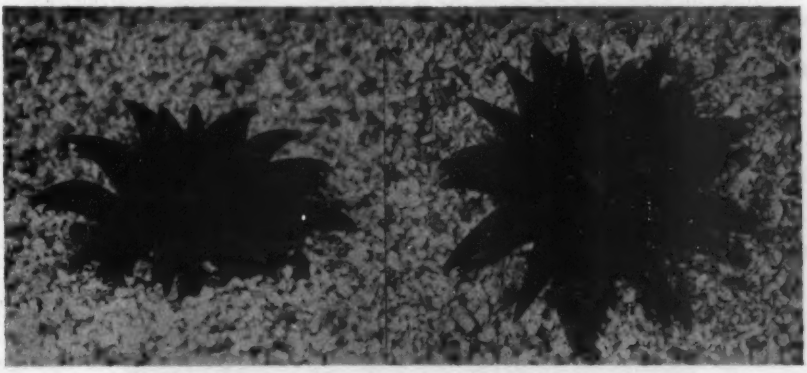


FIG. 45
Side and top view of *Haworthia parksiana* Poelln. nat. size

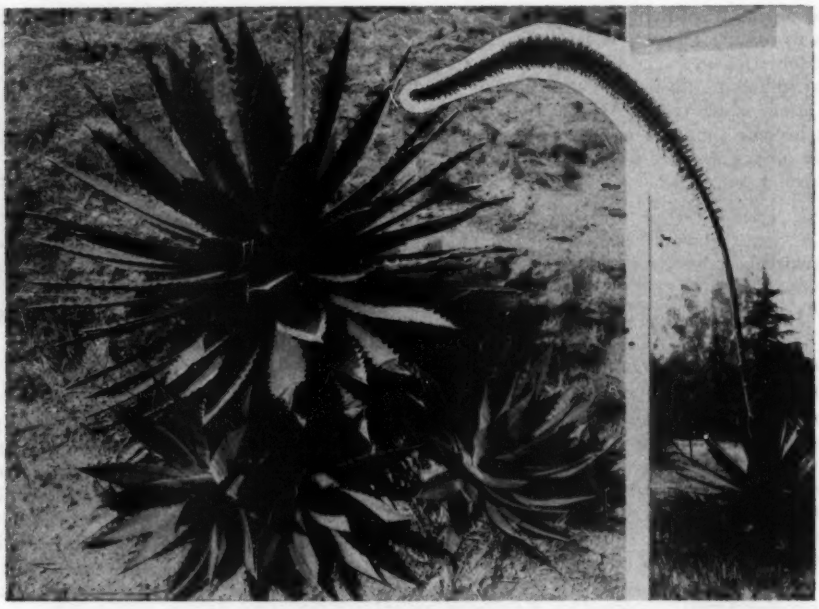


FIG. 46
Agave univittata var. *latifolia*
Grown in the Huntington Botanical Garden, San Marino, California. Rosette approx. 1/8 natural size.

CULTIVATED AND NATIVE AGAVES IN THE SOUTHWESTERN UNITED STATES

AUGUST J. BREITUNG
1416 S. Glendale Ave., Glendale, California

PART 3

Agave univittata var. **latifolia** (Berger) Breitung, **comb. nov.**

A. lophantha var. *latifolia* Berger, Die Agaven 92, 1915.

Distinguished from the typical species by the broader leaves armed by larger, variously bent and curved teeth on fleshy prominences and no dark lines on lower side of leaves.

Agave univittata var. **carchariodonta** (Pampanini) Breitung, **stat. nov.**

A. carchariodonta Pampanini in Nuovo Giornale Bot. Italia, 591, 1907.

Similar to var. *latifolia* but distinguished by the interrupted horny margin which extends from spine to first pair of teeth and then continuous from middle to base of leaf. Rosette shown in accompanying illustration is 1.30 m. in diameter with leaves 60 cm. long and 10 cm. broad at the middle.

Agave univittata var. **heteracantha** (Zuccarini) Breitung, **stat. nov.**

A. heteracantha Zuccarini, Nov. Act. Acad. Caes. Leop. Carol. 16(2): 675, 1833.

A. ensifera Jacobi, Nachtr. 1: 138, 1868.

Distinguished from the typical species by its gray-green more or less rough leaves, larger, variously curved and bent often paired teeth saddling fleshy prominences.

Evidently, *A. univittata* is exceedingly variable in leaf characteristics and the inflorescence may be erect or more frequently bent.

FIG. 47
Agave univittata var. *carchariodonta*
Grown by H. S. Gentry, Murrieta, California. Approx. 1/12 natural size.

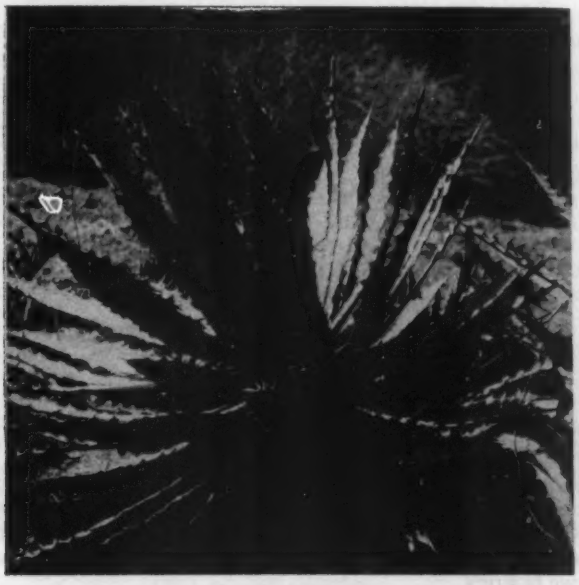


FIG. 48
Agave univittata var. *heteracantha*
Grown by George Glade, Tujunga, California. Approx. 1/9 natural size.

FIG. 49
Agave xylonacantha
Grown by E. R. Le Roy, Atherton, California. Approx. 1/6 natural size.

Agave xylonacantha Salm-Dyck, Bonplandia 7: 92, 1859.
A. amurensis Jacobi, Hamb. Gart. Zeit. 20: 548, 1864.
A. kochii Jacobi, Hamb. Gart. Zeit. 2: 117, 1866.

Distribution: Hidalgo and San Louis Potosi; type cultivated in Europe, said to be from San Louis Potosi but later records include Ixmiquilpan and Real Del Monte.

Rosette single, to 1.30 m. in diam.; leaves loosely spreading, undulate and contorted, dull, mostly grayish green, scabrous, the lower surface with darker lines but no median stripe above, 6 to 12 cm. broad, 35 to 60 cm. long; armature light brown, soon gray; spine flexuose 4 to 5 cm. long decurrent into the continuous 1 to 2 mm. wide horny border; teeth very irregular or confluent 20 to 40 mm. apart, 10 to 15 mm. long and nearly as broad over high prominences. Inflorescence 3 to 4 m. high, somewhat bent.

Agave splendens Jacobi, Abh. Schles. Ges. Vaterl. Cult. 1870: 147, 1870.

Distribution: Unknown, type cultivated in Europe.

Rosette with axillary branches, mound forming; leaves 15 to 20 cm. long, 5 cm. broad, green, pale median stripe above but no dark lines beneath; armature brown becoming gray; spine 1.5 cm. long, decurrent into the continuous horny margins .05 to 1 mm. broad; teeth 1 to 2 cm. apart, 3 to 5 mm. wide, usually bent downwards or hooked upwards; inflorescence not known to writer.

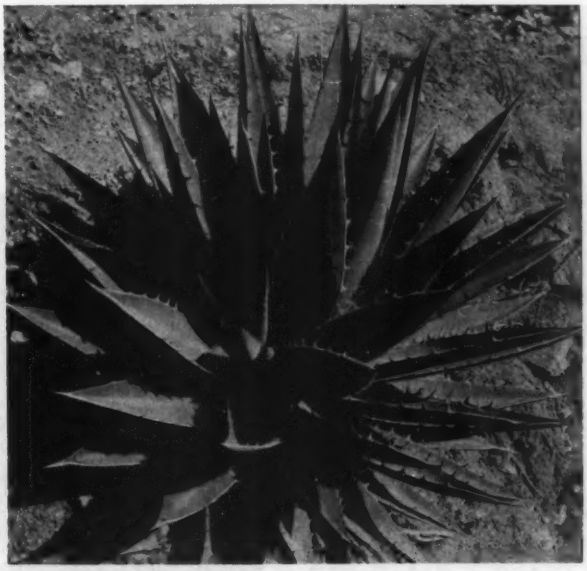


FIG. 50
Agave splendens
Grown by L. Ellenwood, San Fernando, California. Approx. ¼ natural size.

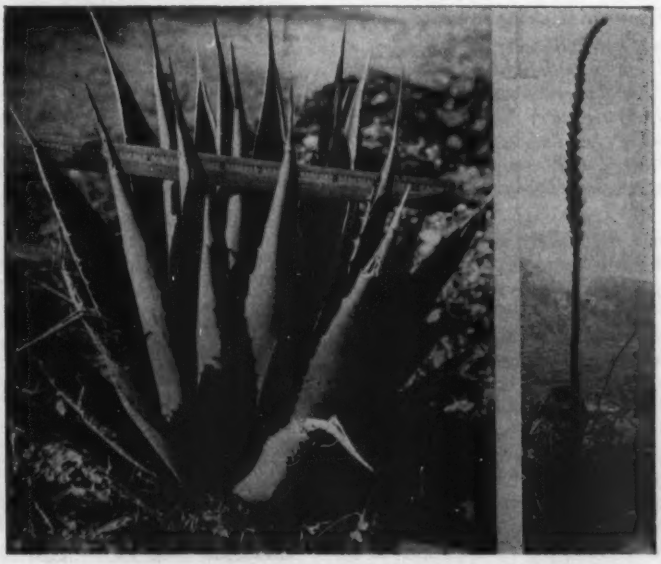


FIG. 51
Agave glomeruliflora
In natural habitat, Big Bend National Park, Texas. Photos by O. E. Sperry. Rosette approx. ⅕ nat. size.
For description see previous issue of this journal, page 91.

Icones Plantarum Succulentarum

15. *Adromischus pulchellus* P. C. Hutchison*

By P. C. Hutchison

The new species of Adromischus described here is another of the discoveries of Mr. Harry Hall of the National Botanic Garden, Kirstenbosch, South Africa. Two plants of the type collection were received from him under the Kirstenbosch number 761/53 in March, 1953, and both have survived and flowered annually since. In his notes on this collection Hall remarked that it "was growing in small pockets of debris on sheer faces of granite slopes. Where soil permitted, *Aloe melanacantha, Conophytum pageae,* and dwarf Ornithogalums also shared the same odd situations."

The original locality datum was "Bowesdorp near Khamieskroon" in Namaqualand. Of Bowesdorp, Hall writes "There are a few ruins, mud walls, remains of what must have been in any case, a very small place. It is simply a narrow, winding road through towering granite hills; the village could not have been more than 200 yards long. Legend has it that sickness and superstition drove the villagers to the new site three miles south where, in a more open valley, quite a large village has now grown. In fact there is an hotel of sorts in Khamieskroon."

Adromischus pulchellus P. C. Hutchison, *sp. nov. Folia oblongo-spathulata ad obovata, 5.5 cm. longa, 2.5 cm. lata, colorata et maculata sicut in A. bicolori, A. trigyno et A. maculato; pedunculus usque ad 45 cm. longus; flores 5-20, solitarii, remoti, infimi 2-3.5 cm. distantes; petala unita, reflexa, sinubus plicata, pallide incarnata, epapillosa.*

Roots fibrous. *Stem* erect, up to 6 cm. long, ca. 1 cm. in diameter, purplish brown, becoming scaly gray-tan with age. *Leaves* opposite to alternate, erect to spreading, often somewhat curved upwards, oblong-spathulate, sometimes obovate, somewhat acute, usually convex above and below but often flattened in the upper half of the upper face, glossy dark green becoming purplish in the sun, especially apically, overlaid with silvery or whitish wax-coating through which the coloring shows as large, dense and often agglomerated spots, up to 5.5 cm. long, usually about 2.5 cm. broad, sometimes shorter and up to 4 cm. broad and then almost ovate, the cross-sections at all points symmetrical. *Inflorescence* simple; peduncle purplish red, somewhat glaucous, up to 45

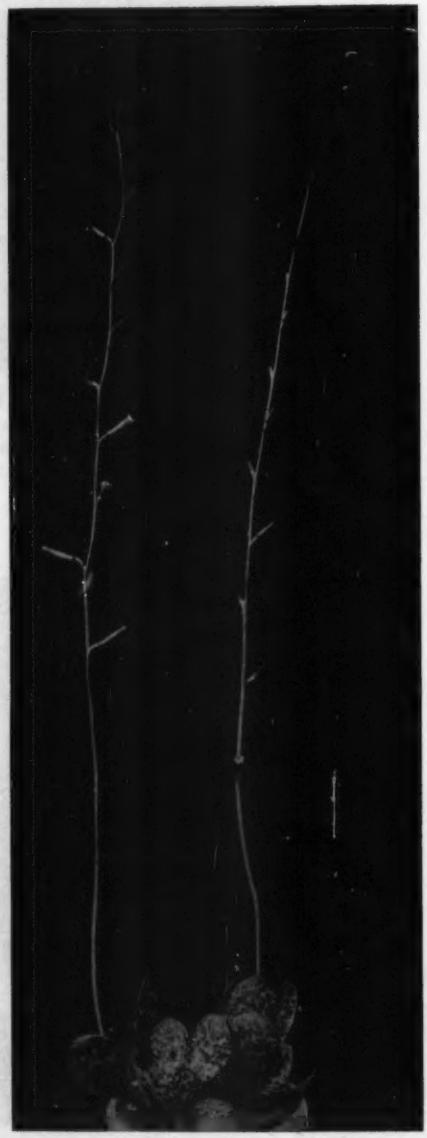


Fig. 52
Adromischus pulchellus Hutchis., ca. ⅓ natural size.

*University of California Botanical Garden Contribution Number 155.

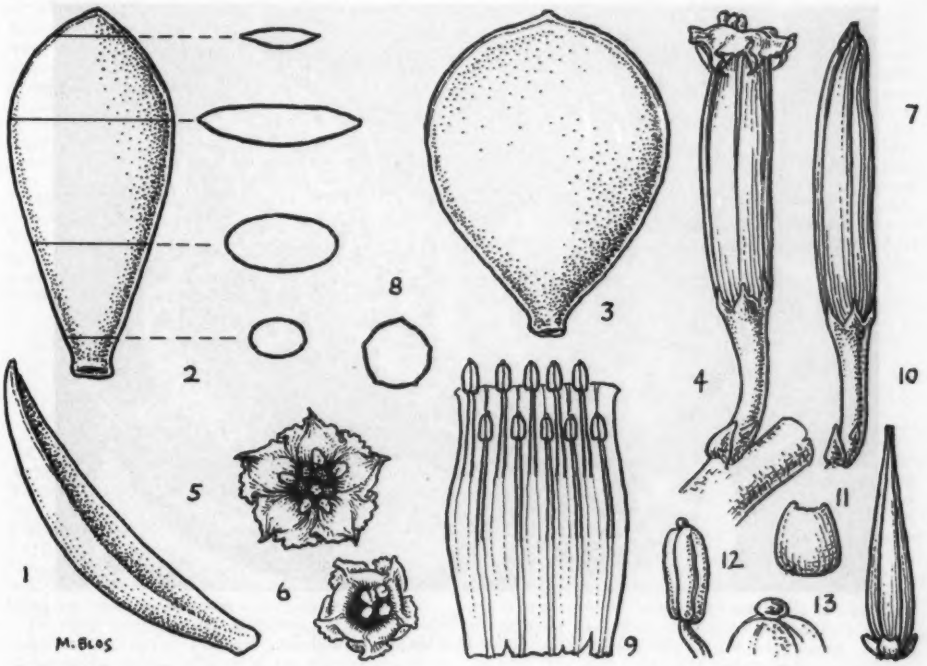


FIG. 53
Adromischus pulchellus Hutchis., the clonotype, U.C.B.G. 54.110-1. 1. Leaf, side view. 2. Leaf, top view and cross-sections. 3. Leaf, top view. 4. Flower. 5. Perianth-limb, expanded. 6. Perianth-limb, recurved. 7. Bud. 8. Cross-section perianth-tube at midpoint. 9. Stamen insertion. 10. Carpels. 11. Nectary scale. 12. Anther. 13. Anther apex. 1-3, natural size. 4-10, x 3. 11, 12, x 9. 13, greatly enlarged. Drawing by Mrs. M. Blos, 1955.

cm. long, 2 to 3 mm. in diameter at the base; rachis 15 to 25 cm. long; flowers 5 to 20, remote, solitary, at first suberect, later often nearly horizontal. *Pedicels* 5 to 7 mm. long, between 1 and 2 mm. in diameter, thickest above. *Calyx-lobes* deltoid, acute, purplish red, 1+ mm. long and broad. *Perianth-tube* 13 to 14 mm. long, 3+ mm. in diameter, barely inflated centrally, the cross-section rounded-pentagonal and obscurely ridged at the corners, the sinuses obscurely indented to middle of the tube, green, extending to the base as a green stripe, the limb-lobes united, at first spreading, then reflexed 3 to 4 mm. wide, ca. 2 mm. long, pale pink, pleated at the sinuses, epapillose, as is the greenish interior of the tube. *Stamens* biseriate, the two series inserted 2 to 3 mm. apart in mid-tube, the filaments 4 to 5 mm. long, the upper series shortest and barely broader below; 5 anthers barely exserted, whitish, reddish tinged in one sinus but unspotted, the terminal globule translucent, not stalked. *Carpels* 12 to 14 mm. long. *Nectary-scales* ca. 1 mm. long and wide, narrowed apically, emarginate, whitish.

South Africa: Namaqualand, Bowesdorp, ca. 3 miles north of Khamieskroon, leg. H. Hall, *University of California Botanical Garden 54.110-1* (BOL-Holotype, Isotypes K, PRE, UC, US). A second plant, 54.110-2, is identical in all respects. The species is known only from the type locality.

A. pulchellus and *A. bicolor* Hutchis. are the only two species, of those related to *A. hemisphaericus* (L.) Lem., with conspicuously silvered and spotted leaves. Elsewhere in the genus this leaf coloration is found in *A. maculatus* (Salm Dyck) Lem. and *A. rupicola* C. A. Smith; these two species, however, can be immediately distinguished by their free petals. *A. bicolor* has differently shaped leaves, is stemless or nearly so, and has a short, few-flowered inflorescence; it differs in floral details also. It is known only

FIG. 54
Adromischus pulchellus Hutchis., ca. natural size.

from Eastern Province, in Steytlerville Division.

This species is a robust grower and promises to be an excellent species for the horticultural trade. It is already introduced to several collections in Europe and will shortly be offered by the International Succulent Institute.

NEW MEXICO CACTUS AND SUCCULENT SOCIETY

Our February 27 meeting was held at the home of Maynard and Sue Blumer. One of the subjects of our business meeting was a discussion of the "Peyote Bill" which became law in New Mexico, March 13, 1959. This permits the sale and possession of Lophophora williamsii for religious purposes. This has been one of the most controversial bills ever brought before the Governor of New Mexico for signature. Our Governor John A. Burroughs did not sign the bill, but neither did he veto it, since he felt that by so doing he would be curtailing an apparently bona fide religion. Further he noted that since the plant was not labeled a narcotic by the U. S. Government Bureau of Narcotics, there was no justification in preventing its sale or possession on that basis. Under New Mexico law, the bill became law since it had not been vetoed by the governor. The greatest objection to the bill originated with the chairman of the Navajo Tribal Council, Paul Jones, who claimed that peyote was the cause of tribal dissension. The president of the Native American Church of North America, Frank Takes Gun, asserted that the laws banning the possession or sale of peyote, was unfair to the members of his church, who use it in their religious services. The matter of peyote has several times previously come before our legislature. The New Mexico Cactus & Succulent Society was interested in the outcome of this bill and so President Luke Vortman, upon the approval of the Executive Committee, provided our governor with the Cactus & Succulent Journal, Volume XXIX November-December, 1957 #6. Since it was apparent by all the articles mentioned in the newspapers that a true and unprejudiced picture of Lophophora williamsii was not being presented, we felt that Governor Burroughs might get at least somewhat of a better understanding of the nature of the plant from the article "The Prosecuted Peyote" by James E. Harmon. We do not delude ourselves with the idea that we had any great influence upon the decision of the governor to let the bill become law without his signature, but we can say that we tried to help in our own small way. In all fairness we must admit that there apparently is a problem on the Navajo Reservation, and Mr. Jones was not amiss except that he wanted the State of New Mexico to handle the Indian problem, which probably can best be solved by the Indian people themselves. We collectors of cactus plants at least have some reassurance now that we are not the only persons interested in the genus Lophophora.

The need for a librarian has become more and more apparent. A motion was made and carried to amend our constitution to provide for someone to look after our books, magazines, and any photographic slides we may acquire. We received another reassuring letter from the City of Albuquerque that a retaining wall will soon be provided along with more rock for planting in the cactus and succulent garden at the Albuquerque Civic Auditorium. After the business meeting our society was favored by a very interesting discussion of Mexican Cacti by Mrs. Jane Cowper of Albuquerque. The writings of several famous collectors of Mexican Cacti were discussed for their accuracy

of information regarding habitats and descriptions of type localities. Many books, magazine articles, and maps were passed around by Mrs. Cowper which helped persons present to plan enlargement of their personal cactus reference libraries. The map of the Republic of Mexico is becoming increasingly common at our meetings and our members look forward with great interest to the rumored possibility that the convention of the Cactus & Succulent Society of America may be held in Mexico City in the not too distant future.

Our March 20th meeting was held at the home of Van and Ruth Luhrs. After approval of the amendment of the constitution to provide for a librarian, Ann Sherman was elected to serve in that capacity. Prince Pierce announced the launching of a Dish Garden competition among all the members. There is some talk of a competition between husbands and wives, or possibly between the men of the club and the women. A definite date and rules have not been established. After the meeting was closed, Van Luhrs gave a discussion of crestation in plants and the various theories regarding its cause. Afterwards he answered questions, all of which helped expand our thinking on crestation in cactus. Luke Vortman then gave a history of taxonomy of cactus, which covered the most important authors from Coronado's Expedition in 1540 to the present day. Most persons present visited their greenhouse, and laid plans for future field trips. Everyone is looking forward to an active summer season.

SPOTLIGHT ON ROUND ROBINS

MRS. GLADYS H. PANIS
Box 705, Falmouth, Mass.

Our newest members are: Mrs. Joseph P. Cruz, Arcata, California; Mr. Bryant W. Plitt, Purcellville, Virginia; Mrs. Ed. M. Phelan, Overland, Missouri; Mr. L. A. D. Williamson, Woburn, Lower Hutt, New Zealand; David E. Watling, B.Sc., Guildford, Surrey, England; Mr. Louis F. Koehler, Boise, Idaho; Mrs. Norman E. Dupee, Waban, Massachusetts. A warm welcome to all of you and may the Robin you joined bring you much satisfaction and pleasure.

To those who are still wondering if they should join, why not write me now and find out what a Robin is. Be sure to tell me if you are a member of our Cactus and Succulent Society as that is most important. Hope to be hearing from many of you soon.

It seems to be the general opinion of all members who have used many sprays for control of mealy bugs that Malathion is excellent. Beverley Minson says, "Anything that will kill mealies I am all for." She uses it "in a windex sprayer which is real easy and handy. Best of all I have discovered is to soak your pots with it, watering from the top, and it has done marvels. Once rid of mealies it should be no problem to keep them out if you quarantine new plants." Helen Arp echoes Beverley's opinion on the spray saying, "I have found Malathion seems to do the trick best. The only trouble is one has to take each plant that needs spraying either to a door or outside." For safety, of course, as Malathion is not recommended for house use. Irma Huch also says, "I haven't had any trouble with scale or mealies for so long but made the mistake of not spraying a new plant right away. Before I knew it, it was covered with scale. I am sure thankful for this Malathion."

Yuccas are not often mentioned in the Robins and I have never heard of one used as a pot-plant. However Julia Moore thinks hers "make a nice fence to let people know not to park on the grass," but she adds, "the birds like the seeds in the winter." Frances Anderson spoke of "a white yucca which took eight years from seed to blooming size and had five spikes of flowers one year." Irma Huch mentioned a red flowered yucca she had which bloomed all summer. She has some seeds of a purple flowering variety planted and has a small plant of Hespera Yucca which is supposed to be very pretty and quite rare. All of which proves if a plant is mentioned in a Robin there will be some member who can give some information about it.

It is curious, too, how widely separated members of different Robins often come up with much the same information at the very same time. Such is the case in the problem of rooting old, woody cacti, which Mildred Wellbaum and Arthur Wells each quoted from the book "Cactus Culture" by Franz Buxbaum which was translated from the German by Vera Higgins. Arthur wrote, "Buxbaum says that if the old hard tissues at the base of a rootless plant are softened by soaking in warm water and then rubbed away to the living tissue, new roots may be able to form and grow at the base. I did this with my Mammillaria microcarpa and new roots appear to be forming at last. This can be done successfully only when there is no infection in the old tissues." Mildred has added to this by saying, "I have an idea. The next time I get a plant without roots and a thick root stalk, I am going to stick it full of pin holes and dust in Rootone and see what happens. I remember well my mother used to do that to cuttings when she rooted them in water and a root came out of every pin hole. Why wouldn't it work here?"

Ian McKay brought up an idea which might be of value when he said, "I always measure my plants during the winter months and find it of interest to compare with the previous year's figure. I sometimes find that a plant I had thought to be standing still has actually put on a reasonable amount of growth. Conversely, it sometimes shows up that a plant has not been doing its best and extra fertilizer or repotting is indicated."

Glenn Webb points out the difference location makes as to the needs of Echinocereus papillosus. "When I gave directions for it I was thinking of it as it grew in Arkansas. Now I recall it did well in full sun in late summer in northern Illinois, was unhappy in full sun in Oklahoma and here in Texas it is satisfied in midsummer with a north exposure where it got brief sun. Full sun is not the same brightness or hotness everywhere." He also suggests, "Maybe it would be helpful to fix a glass jar over some cacti when the summer is cool. This concentrates the light. Cactus tissue seems to require a temperature of 85 to 90 degrees to get growing vigorously. The method has to be watched carefully, though, as overheating can be deadly to plants too. Moisture should follow onset of growth."

From Indiana comes a report of the success John Daily has had with winter-hardy cacti. "In the spring of '56," he wrote, "I first bought plants from Mrs. Karr. The Opuntias have prospered. The one that bloomed was O. aurea. I still have the Echinocereus of that year: reichenbachii, coccineus var. octacanthus, baileyii, triglochidiatus and coccineus var. inermis. Those that survived look as healthy as those in the wild. From 1957 plants E. albispina and a new species have survived. My E. viridiflorus, all of my own collecting, still look good. Sclerocactus survives but only about one half the

original plants. Pediocactus if small lives on, and Neobesseya species, Coryphantha vivipara survive. Most of the two year old plants have not flowered much but if I can keep an Echinocereus growing in Indiana and get just one flower I think that is something. My self-collected Opuntia arborescens really grew this summer (1958)." He asked a question that I imagine a good many would like to know, "Is there a hardy Mammillaria?"

I have covered only a very few Robins this time, but it will give those of you who do not belong to one yet a sample of what goes into the Robin letters. I hope it sounds interesting and worth looking into. The latch-string is always out to those of our members who would like to join. Please write to me. I shall be glad to place you in one of our Round Robins.

EXCERPT FROM THE LETTER OF MR. STANLEY C. DEDMAN, GODALMING SURREY, ENGLAND

When I was a little boy we lived in a tall terrace-house with a concervatory. We had one cactus plant always referred to as "Mother's Cactus," which I later learned was an Epiphyllum. Of course it never did anything but grow a new "leaf" now and then, but I am happy to say that its descendants are still with me, and one of them produced the usual scarlet blooms this year. I think it remained in our keeping for over twenty years before it found itself in a suitable environment for blooming.

When I was twenty-one we moved to a new house, and my father had a lean-to greenhouse built outside the kitchen for my mother. My mother's father had been a gardener to a number of well-to-do residents in his neighborhood and from one of these gardens had obtained a small yucca. This came to mother on marriage and was transferred to each of our homes in turn. It had bloomed and been divided a number of times by the time we moved, and we had them in barrels all around the house. I think every one of my relatives and quite a number of other people now have yuccas in their gardens all over the place, sprung from this one that started with us. Only yesterday I saw two yuccas, one with three heads of bloom. Here I have fine plants making steady headway.

After the new greenhouse was started (1934) several people brought odd plants to give to her. Kleinia articulata became known as "The signpost" from its unusual formation, Crassula lycopodioides we christened "Bootlaces." Then on holiday, mother saw a nice "Ice plant" growing in a pot in our ladies' toilet! Mother begged a piece of it, and this has been known ever since as "the lavatory plant," actually Sedum sieboldii! Then plants came in a little rush. A friend we went to visit, whose name, believe it or not, was Mr. Greengrass, had quite an extensive collection of plants and we came home with a number of specimens — Echinopsis eyriesii, Chamaecereus sylvestrii, Faucaria tigrina, Opuntia microdasys and a thick, fleshy cereus we christened "the cucumber." All these were, as you can appreciate, kept in most unsuitable conditions, all mixed up with ferns and geraniums, cyclamens and hydrangeas. Soil conditions were wrong, the atmosphere was damp and humid, and it is not surprising that nothing flowered. Not that we expected them to flower—we were quite happy in seeing them grow in such peculiar shapes and the like. Then one day, to our great surprise, our old friend the Epiphyllum burst forth with two gorgeous scarlet flowers, to be followed shortly by a large head of coral bloom on the top of Crassula falcata, which was now eighteen inches high.

During the war when we were away, shrapnel broke some of the glass, but although lots of the plants died, the cacti, strangely enough, survived. After the war, we returned to my old house I vowed I would keep the greenhouse going, and that's where I got bitten with the cactus bug. I began to read up on the subject and acquire more plants until almost everything else died off and the house really began to be a succulent house. After a few years I moved and bought a new greenhouse which I situated in the sunniest spot in the garden—and then I really began to get results. A huge Echinopsis eyriesii which we had owned for eighteen years produced its gorgeous blooms; the "peanut" cactus, which by now had filled several large pots, began each year to produce dozens of lovely tomato-colored flowers; Stapelia variegata delighted us all with its delightful chocolate and cream blooms; Sedum stahlii, Pachyphytum hookerii, Faucaria tigrina, Crassula schmidtii, Aloe variegata and crowds of others all showed us that they could bloom, and the hobby fastened its tenticles more closely around me. My final move, when we found this house, was to have the greenhouse taken down and re-erected in the spring. Already it has all the shelves I can possibly erect and is bursting at the seams.

EASIEST TO FLOWER—BIGGEST WASTE OF TIME

(See Journal Vol. XXX, No. 5, pg. 155)

1. Most easily flowered cactus: Gym. friederickii (rose plaid cactus)—I get few if any blooms, but even that blooms for me.

2. Biggest waste of time: Any of the Orchid Cacti—They do not look like cacti, take up a lot of space, flower too seldom during the year to warrant keeping them, if they flower at all, are too susceptible to scale.

EDITH R. BUTLER, Pa.

The succulent that flowers the most for me is Kleinia (Senecio) repens. The cactus that flowers the most is Opuntia vulgaris var. monocantha.

FRANKLIN D. CROSBY
Malibu, Cal.

SOUTH BAY CACTUS AND SUCCULENT CLUB

We are 20 members strong, all active. We publish a monthly Bulletin, and our interests in succulents cover all phases.

Officers for the year 1959 are: John B. Stanton, president; Ruth T. Stanton, vice-president; Ruby McClure, secretary; Jeanne Nester, treasurer; Corrie Wingo, registrar; Florence Willis, librarian. In addition to being president, I am editor of the Bulletin and membership chairman; my wife is program and plant-sale chairman as well as vice-president.

We meet on the second Friday of each month, at 7:30 p.m., in the Lawndale Community Center, 147th Street and Burin Avenue, Lawndale, Calif. Everyone is welcome to our meetings.

JOHN B. STANTON

FROM OREGON

The matter of overhead watering is always a subject for discussion. I am a firm believer in it. More so, since I have recently read an interesting article on it.

An editorial in the March 1959 issue of "Let's Live" magazine deals with the ability of plants to absorb water and essential nutrients from the air.

Rutgers University in New Jersey has found that "if you spray a solution from a phosphate or nitrogen fertilizer onto the leaf of the plant, the plant will make far greater use of the fertilizer than if it is applied to the soil."

This year I am using a manure solution and also a fish-oil solution alternately and spraying overhead. Looks good already.

MILDRED WELLBAUM, Mulino, Oregon

May-June 1959

The resting period is definitely over and new problems arise: watering; cleaning off the dust and grime; checking buds and noting directions away from, towards, or into light when moving plants; reading notes and books; checking blooming periods for Orchid Cactus to verify names, etc. These and many other things help to keep me from getting too impatient with our backward weather (cold and then hot).

The steady hard coal heat necessitated by the unusually cold winter cost me less in fuel, caused more plants to bloom early, left me more time to observe and compare, made it unnecessary to adjust ventilators for rapidly changing temperatures, etc. I really luxuriated in the winter freedom of 1958-1959. For several years past, the mid-winter warm spells and rapidly descending temperatures that followed kept me busy guessing what to do. I know I get the itch to water too often during warm winters. Frequently I get my plants into early growth which brings on etiolation. I should wait for Old Sol in his own good time.

This last winter gave me more time for fan mail and many suggestions such as my mistake in lumping Agaves, etc. under the lilies. I remember some of the unanswered letters back in 1928-1936 and my conscience bothers me when I think of *my* eagerness to receive a reply—so write and I shall answer either in this column or by letter.

It's a good thing that I have always been suspicious of the word "hardy cacti" and have kept cuttings of our native Opuntia compressa in the greenhouse as well as in outside beds. This last cold winter left my Opuntia bed surrounded by ice and the continued cold "cooked" the larger pads. We had a late warm fall in 1958 followed by late November low temperatures. No time for the plants to get dormant and prepared. However, I had cuttings of the varieties from Ohio, Indiana, Tennessee, Illinois, and Virginia. No doubt these are hardy IF they are in a well drained, sunny location. I've seen clumps three to five feet across on limestone ridges west of here as well as on sandy, grassy beaches near Lake Erie.

I allowed my numerous home-grown seedlings of Rebutias, Echinopsis, Schlumbergeras, Haworthias, and Astrophytums to remain on the dry side much longer this year than in the past. The plants shrunk but recovered with spring waterings. Some of the tops were even with the soil level, but they plump up quickly with more moisture. The Haworthias turn red and frequently get an outside covering of dried "leaves" to protect them from moisture loss.

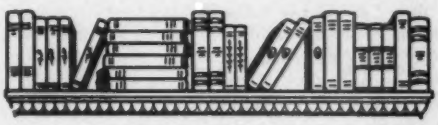
I try to have Rebutias and Fraileas from seed to replace my losses and those of nearby collectors. Most of the losses come within 3 to 5 years. I keep mine in small pots until they offset profusely and then they go into large pots. I also make cuttings as soon as available for "original species" use. So far I have kept cuttings and seedlings as well as being able to replace all species, varieties, etc., I've ever owned. Some Rebutias flower from the base, others from last year's growth, and still others from the new center growth as well as combinations of some of these.

If you leave Echinopsis dry, should they be cool or cold, warm or hot? If you keep the plants in good light but on the cool side, should they be watered weekly or kept dry during storage? These two questions have puzzled me for several years. I've tried some with both treatments and I am for the light weekly waterings with cool temperatures. My test with free-flowering, good-flowering, and shy-flowering types have confirmed my opinions. Give them good light and weekly watering. It will keep their metabolism active but dormant. At this time I have about 25 species and varieties budded. The Johnson Hybrids are not showing buds as yet as I kept them in storage last winter. Last year they bloomed in late June and early July. I am also growing two small flats of seedlings from Johnson's crosses. The seedlings develop fast into sizable plants.

The Chameocereus sylvestrii varieties and hybrids look fine after the chilly time I gave them. I allowed them to become dormant outside until freezing weather arrived. By this time they were a wrinkled reddish purple color. I keep them in the cold part of the greenhouse where they get strong light, no water and plenty of coolness. In late February I gave them a good watering with an occasional spray bath. Buds showed up in late March on the Peanut Cactus and its large variety. If they bloom better than in the past, I shall use the same method on my hardier Lobivias.

At the April meeting of the Midwest Cactus and Succulent Society we saw movies of the Cincinnati and Denver Conventions and it made those of us who have been with you Cactophiles at the conventions very homesick and ready to meet you again in St. Louis in July 1959.

JOHN E. C. RODGERS
1229 8th Street, Lorain, Ohio



BOOK REVIEW

Städtische Sukkulentensammlung, Zürich (Katalog der in Kultur stehenden Arten); 168 pp., 57 photos, 5 color plates; Zürich, 1958.

The Civic Succulent Collection at Zürich, Switzerland, has long been one of the world's leading collections, due partly to generous civic support and partly to the energy and high standards of its Curator, H. Krainz. Now a guide to the collection has been published, listing all cultivated species, with many excellent black and white photos and several color-paintings, some of species never before figured. The brief German text is no barrier to an appreciation of the illustrations and interesting lists of species. Also included is a list of succulents received from P. R. O. Bally in Kenya, with locality data and field notes in English, a valuable aid for the study of these plants. The lists are marred by a few errors and are occasionally misleading in that several manuscript-names are presented as though valid.

Die von Curt Backeberg in "Descriptiones Cactacearum Novarum" veröffentlichten Diagnosen "neuer" peruanischer Kakteen nebst grundsätzlichen Erörterungen über taxonomische und nomenklatorische Fragen (Curt Backeberg's Descriptions of "New" Species of Peruvian Cacti in "Descriptiones Cactacearum Novarum", with Discussions on Problems of Taxonomy and Nomenclature), by Friedrich Ritter; 54 pp., no illustrations, mimeographed; published by F. Ritter, Hamburg, Germany; price DM 6.

Despite its rather frightening title and unprepos-

sessing format, this booklet is a valuable and authoritative critique of one of the most ludicrous works of cactology (reviewed in this Journal, Sept.-Oct., 1957). Ritter has travelled widely in Peru, and having made copious notes on variation and distribution is well-qualified to evaluate Backeberg's treatment of Peruvian cacti. However, in attacking individual species in Backeberg's booklet of validating diagnoses, Ritter is in the position of a man trying to kill mosquitoes in the dark with a cannon; not only are his targets unworthy of his weapon, but they can so seldom be identified from these trivial descriptions alone that Ritter's aim is often deflected and his energy wasted. It is unfortunate that he did not wait until recently, when Backeberg's "Die Cactaceae" and Rauh's large volume on Peruvian cacti were published, for these detailed works give ample opportunity for criticism by a man of Ritter's experience. While these works have already made much of his diatribe obsolete, it still remains a stimulating and useful contribution to the knowledge of cacti; even merely as a dissenting opinion in a field too long dominated by one viewpoint, this paper should be studied by any German-reading person interested in taxonomy. Backeberg's new species are evaluated in turn, and several descriptions are expanded in great detail from Ritter's notes; however, it is apparent from the latter's own recently published species that whereas his publishing standards are much higher than Backeberg's his concept of genera and species is hardly less radical.

MYRON KIMNACH

Both books available Aug. 1 from Abbey Garden Press, 132 W. Union St., Pasadena, California. The Zürich book $2.00 and Ritter's for $2.50.—S.E.H.

DESERT FLOWERS UNDER GLASS

The story of my experiences and delight in growing and flowering Cacti and Succulents in a small glasshouse in Christchurch, New Zealand

By MARJORIE E. SHIELDS

CHAPTER 12—concluded

Hanging from the shelf are Sedum dasyphyllum and its variety glanduliferum, in little baskets made from coconut shells. The former looks like a basketful of coral so beautifully are the tiny branches with their "crowded leaves" coloured pink and yellow. Nothing could be prettier than this now it is covered with its tiny white starry flowers tipped with pink. The var. glanduliferum has a similar flower, but the plant is not as colourful as the leaves are always blue/green and hairy and have no autumn tinting.

S. amecamecanum also occupies a basket. This plant has tiny green closely packed leaves, the tips of the stems being white powdered and producing miniature yellow flowers. It is quite good for bowl gardens being so small. See that basket hanging up there with the cloud of yellow flowers, and with pale green jelly-bean leaves red tipped? That is S. pachyphyllum. Very colourful isn't it? It makes a full, pretty basket.

Is there any need to tell you the name of this one? Yes, S. morganianum—the Burro's Tail. It has many tails and doesn't it look splendid hanging there in its green bucket? And wasn't I thrilled when I first saw the flowers! Now there are many buds releasing their treasures, the clusters of deep pink blossoms on the ends of the tails look delightful against the white leaves. The flowers are bell shaped, more like an Echeveria than a starry Sedum.

S. bellum is from North America and needs cooler conditions. Even then it is hard to rear this "beautiful" plant as it flowers itself to death. If the plant can be grown first and is well established before letting it flower, it stands a better chance. Another needing cooler conditions is S. sieboldii a Sedum from Japan with a real oriental look. It has clusters of pretty pinkish mauve star shaped flowers with long filaments to match topped with deep maroon anthers. These little blossoms are in clusters on the ends of long stems which hang gracefully over the edge of the basket. There are two varieties, plain green and variegated green and white. In autumn both have their round leaves edged with deep pink and as the season advances the leaves become flushed with pink which deepens until they are almost flame. Later they all drop, leaves as well as stems, for this is a perennial plant which dies down each winter, new rosettes appearing again in the spring.

EDITOR'S NOTE

Mrs. Shields has been a most loyal contributor and her photos have been most helpful to those seeking names for their collection. We would like to know how many might be interested in reprinting this series in booklet form. The number of replies will determine whether or not there is sufficient interest for this venture sometime in 1960. This short installment concludes the Sedums and the following issue will start with Rebutias. Many of you might like to contact Mrs. Shields at 11 Horotane Valley, Christchurch SE 2, NZ. She would be pleased to know that you like her articles. —S.E.H.

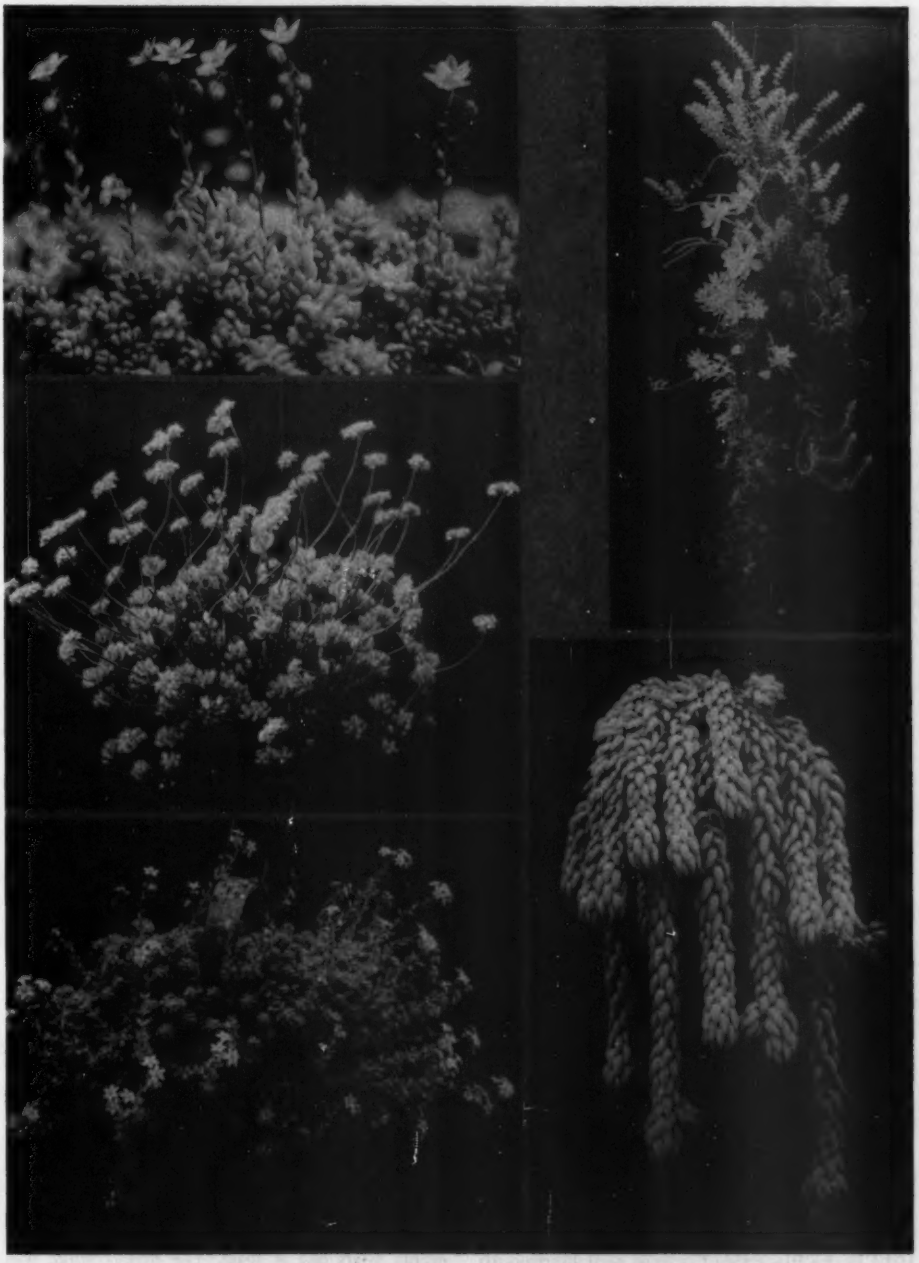


FIG. 55

Top left, Sedum dasyphyllum. Top right, Sedums in an amunition shell basket. Center left, S. pachyphyllum. Bottom left, S. dasyphyllum var. glanduliferum. Bottom right, S. morganianum.

FIG. 56. *Agave parryi* in the gardens of Sir Ralph Newman at Blackpool Gardens, near Dartmouth, S. Devon, England.

Agave Flowered in England

From Journal of the Royal Horticultural Society, Vol. LXXX, Pt. 7

The agave shown in Fig. 56 was planted in 1914 in the Blackpool Gardens near Dartmouth, South Devon, by R. L. Newman, who obtained the plant from the Rev. A. C. D. Ryder, of Uckfield, Sussex. The latter, in that year, stated that the plant was then at least forty years old. Therefore, the plant as planted in 1914 must have been raised in 1874, and was (in 1954) eighty years old at least. The flower spike was first observed in early March, 1954. The first flowers opened in the beginning of August. Fig. 56 shows the flower spike in mid-August, the flower spike then being, from ground level to the highest point of the flower bracts, 19 feet

high. There were twenty-one flower bracts on the spike, the bracts went on flowering till the end of September, after which they started forming seed pods. Another specimen also flowered in the Blackpool Gardens at the same period as stated in 1954. Its flower spike was 18 feet and it had twenty flowering bracts. This latter specimen was a sucker off a larger specimen, and was planted as such, probably in 1915. It was therefore thirty-nine years old in 1954. The flowers of both specimens were golden-yellow tinged pale pink in bud.

In 1954 there were several small 1954 sucker plants around both flowering specimens. It was observed that the 1954 sucker plants all flowered; other sucker plants around both plants of previous years did not flower.

The flowers were cut off from all the 1954 flowering suckers, except for one flowering sucker of each plant which was left with its flowers on.

It will be interesting to see whether those suckers of which the flowers were cut off will survive, and as to whether the suckers which were left with flowers on them will live.

Records of the flowering of *Agave parryi** in England are very rare. This species is quite distinct from *A. americanus* which has frequently flowered in England. In Fig. 56, standing by the specimen is Mr. J. Jenkins, head gardener, Blackpool Gardens, near Dartmouth, South Devon.

RALPH NEWMAN

Editor's Note: At a meeting of the Scientific Committee of the R.H.S. for May 19, 1942, the late Mr. E. A. Bowles reported that a plant of this species, which had grown in the open at Myddelton House (near Enfield) for the past forty years, had flowered the previous year, throwing up a spike 12 feet high. The flowers were red without and bright yellow within. Ripe seed had been secured after hand pollination. Mr. Preston said that *A. parryi* had flowered at Cambridge, Mr. Bowles' plant having originally come from there, but had not produced fruit, possibly because it had not been pollinated, but had formed some bulbils in the inflorescence. The rosette that had flowered at Myddleton House had died, but offsets produced were living.

**Agave parryi* is a much smaller plant. See this Journal Vol. X, No. 3, pg. 44, for illustrations of *Agave atrovirens* which we believe is the plant that flowered in England. Mr. William Hertrich of the Huntington Botanical Gardens, San Marino, California, states that Agaves have been cultivated in Europe as early as 1553 when they were introduced from the West Indies by early Portuguese and Spanish explorers. Records indicate that flowers were produced in Europe as early as 1583.—S.E.H.

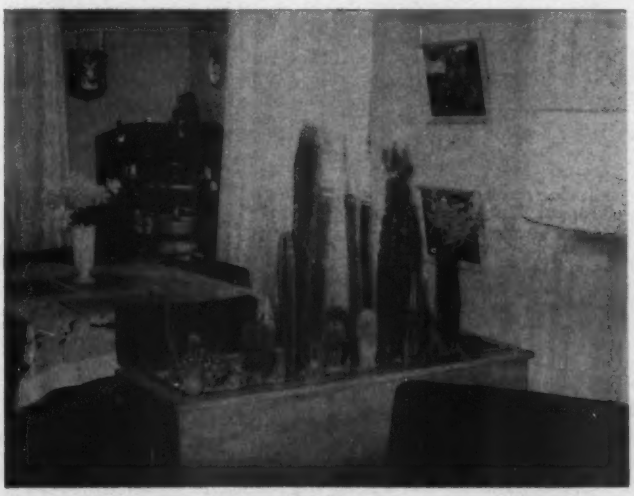


FIG. 57

FIG. 57. Mr. Erwin Henke of Kalamazoo, Michigan, sent this picture of his indoor planter. There are four large windows which furnish good light and sunshine. The cacti are planted in one-third peat moss, one-third gravel, one-third good top soil, and plenty of ground up charcoal along with commercial fertilizer. He uses water from the lake instead of the city water which contains too much chloride. Many flowers result with this treatment.

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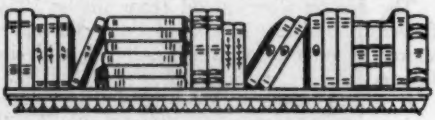

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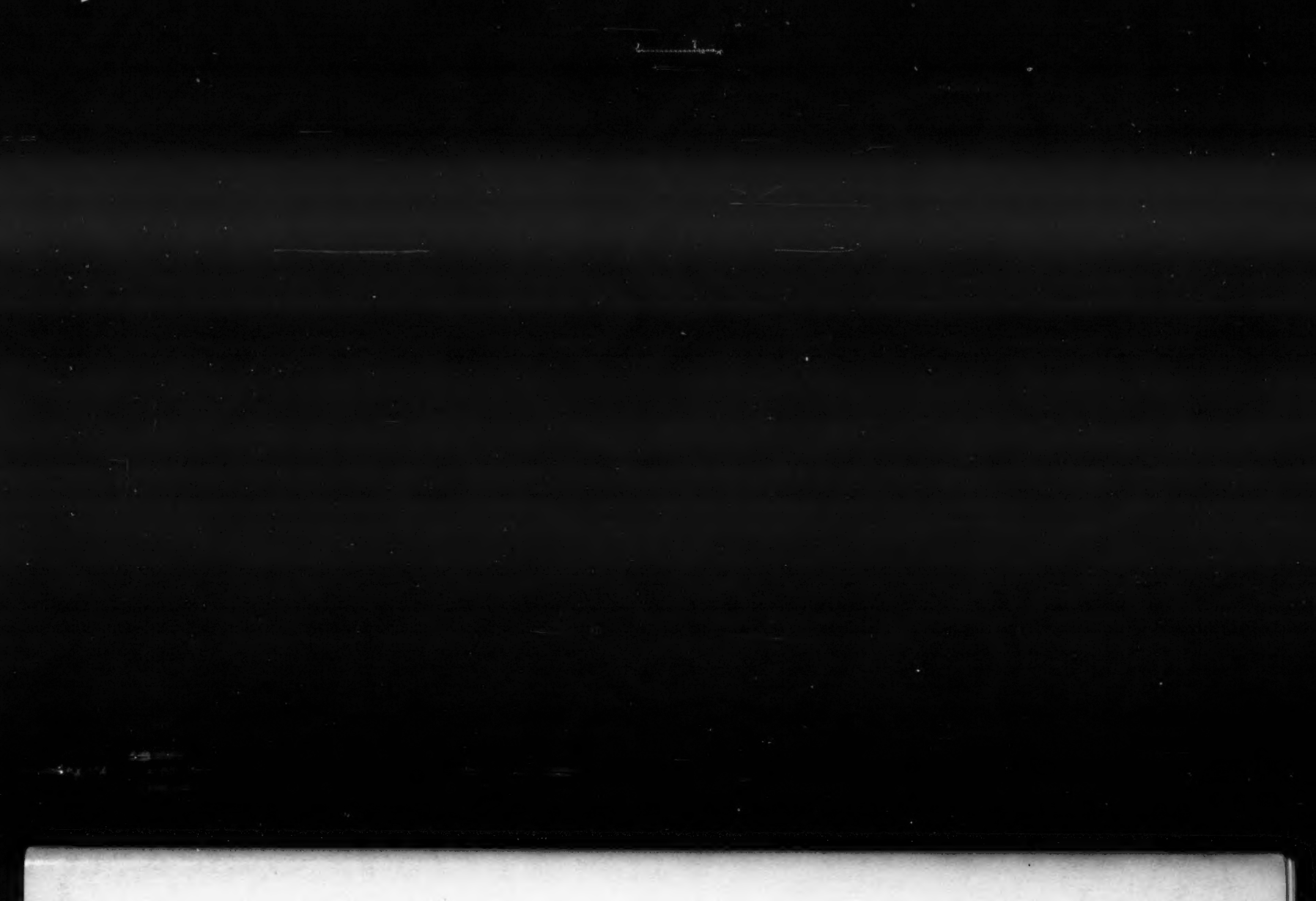
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